

# Manufacturers Record

Industry Construction

Reg. U. S. Pat. Office



\$6.50 per Year  
Single Copy, 20 Cents

Baltimore, Md.  
JANUARY 15, 1931

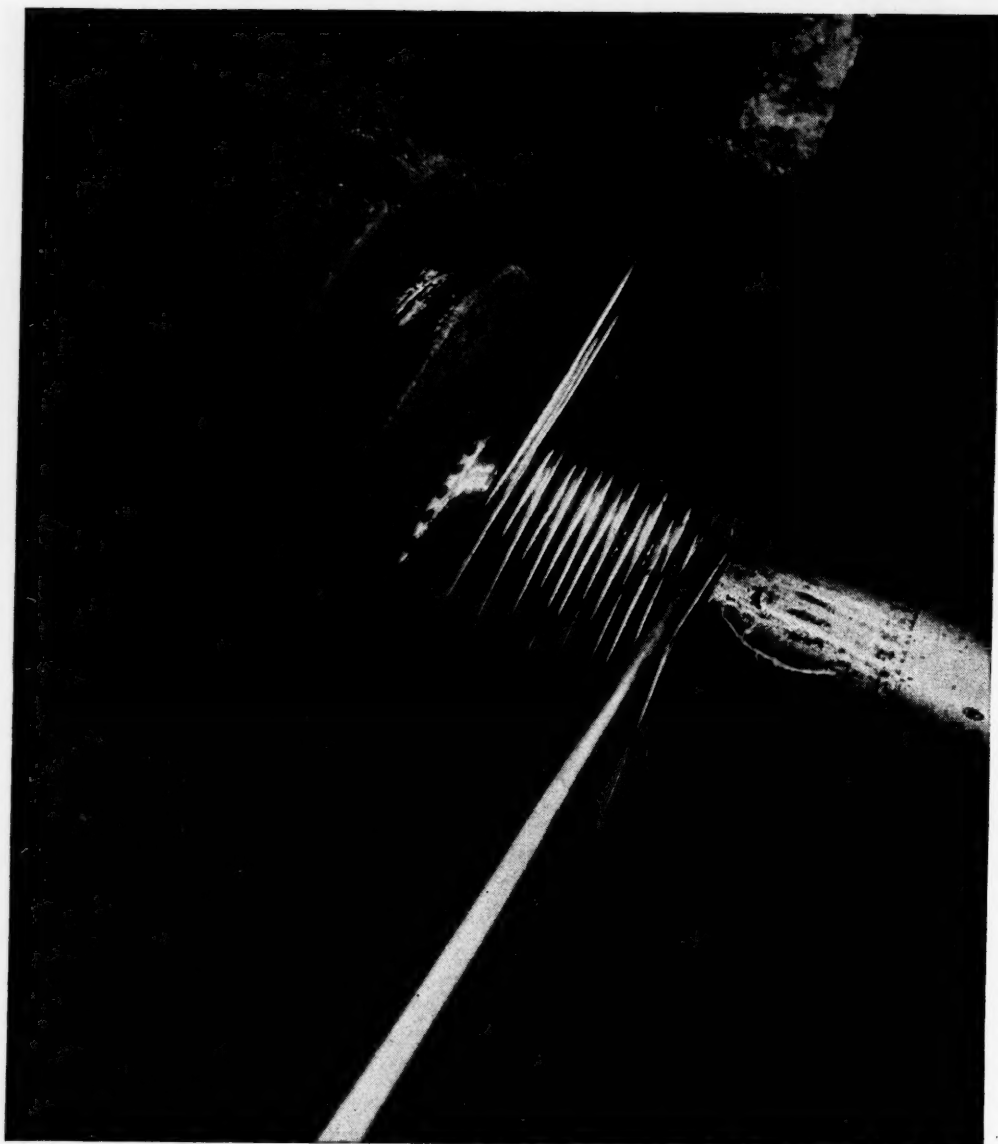
## South's Construction Outlook

Building and engineering contracts awarded in the Southern States last year amounted to more than \$921,000,000, the highest valuation ever compiled by the Manufacturers Record in its annual construction summaries which have been published for many years. This record exceeded the figures for similar work in 1929 by \$141,000,000 and was \$30,000,000 in excess of the previous peak reached in 1926. As only those projects costing \$10,000 each and over and for which definite figures were announced are included in the tabulation, it is estimated that the aggregate valuation of all construction contracts in the South in 1930 ran well over \$1,250,000,000.

Continuation of construction and industrial expansion in the South as 1931 opens is in evidence. The awards for December set a new monthly record, and with much new work in the proposal stage, a large carry-over is indicated especially as the last quarter of 1930 showed a gain in contracts let compared to the corresponding months of 1929. The total investment in outstanding engineering and industrial projects for the last two months of 1930 amounted to more than \$224,000,000, from which the carry-over into this year is enormous, assuring a heavy volume of construction for industrial expansion in the coming months.

The total of more than \$400,000,000 of public improvement bonds sold by the South last year almost reached the peak of 1927 bond sales, and it is estimated that \$600,000,000 will be expended for Southern highways alone in 1931.

The fact that the South last year was enabled to make such a construction record and the development programs now being considered will have a wholesome and encouraging effect upon those who have been hesitating to build or to expand operations. If the rest of the country had measured up to what the South has accomplished in this demonstration of faith, 1930 would not have proved such a disappointing business year. The facts presented elsewhere in this issue as to the 1930 development of Southern industries and building growth, show that the South as a whole made substantial progress even under the depression which has been worldwide in its scope.

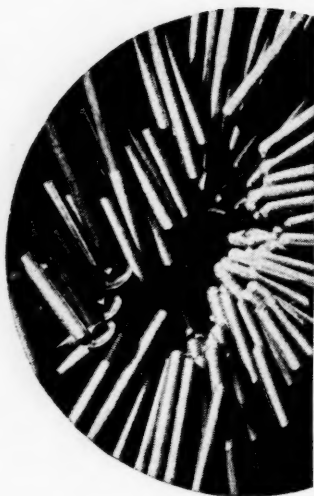


EXACTNESS in our methods is essential to serve the needs of our customers. From raw material to finished product, we take nothing for granted. The first step is a check for size — the last examination covers size, strength, fit, finish.



BOURKE  
WHITE  
PHOTOS

## STEEL SECURITY

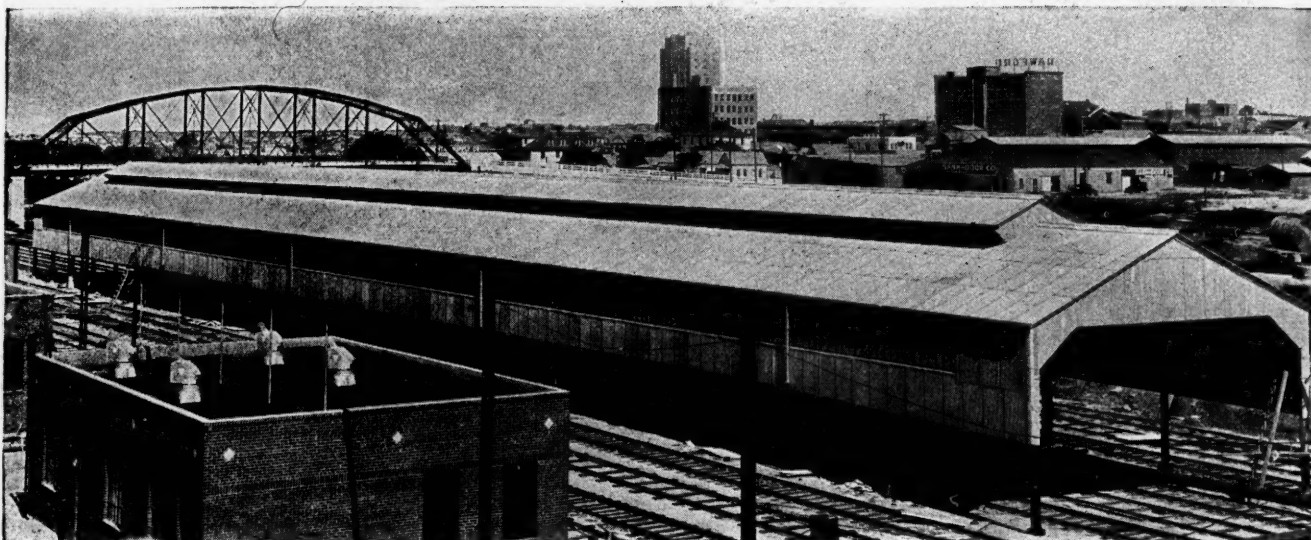


IF THE inside story were to be told of EMPIRE Bolts and Nuts, we should be willing to rest our case with the engineers and the purchasing agents. They must be exacting. On their vigilance depends the reputation of the things their companies make. Just as they know the outstanding merits of the motor car — the tractor — the machinery they are building, so do they know the plus values in EMPIRE Bolts and Nuts. That means quality and accuracy far beyond their demands. If you are an executive in charge of purchases — investigate these definite R-B-W advantages: advanced facilities in equipment — and service that is alert and understanding. Inquiries welcomed by any R-B-W sales office.

### **RUSSELL, BURDSALL & WARD BOLT & NUT CO.**

PORT CHESTER, N. Y.      ROCK FALLS, ILL.      CORAOPOLIS, PA.  
Sales Offices at Philadelphia, Detroit, Chicago, San Francisco, Los Angeles, Seattle, Portland, Ore.





T. & P. Railroad car shed at Big Springs, Texas, showing the type of buildings which may be profitably roofed and sided with Careystone Corrugated.

# STOP MAINTENANCE EXPENSE ON YOUR BUILDINGS

Buildings roofed and sided with Careystone Corrugated will return double profits. First, the original cost is low. Second, the maintenance expense is eliminated, for Careystone Corrugated is permanent and requires no painting or other renewal.

The sheets are delivered cut to exact size, and the large units make for speedy and simple application. All accessories—such as clips, bolts, wires, etc.—are supplied with each shipment.

Careystone Corrugated is made of asbestos fibre and Portland Cement, rolled under enormous pressure. The Carey method of manufacture distributes the fibre uniformly throughout the sheet, resulting in a high degree of strength.

It will pay you to investigate Careystone Corrugated, and prove to yourself that it will effect material savings. We will supply complete information on request, and our engineering staff will submit detailed layout and cost estimate for any structure.

**Careystone**  
CORRUGATED  
ASBESTOS ROOFING  
and SIDING

THE PHILIP CAREY COMPANY  
Lockland, CINCINNATI, OHIO



Careystone Corrugated is made in two thicknesses— $\frac{1}{4}$ -in. and  $\frac{5}{16}$ -in. and in standard sheets 42 inches wide. Standard lengths 4 to 10 ft.



BUFFALO CITY HALL

Buffalo, N. Y.

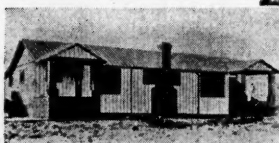
7,600 TONS OF STEEL

By

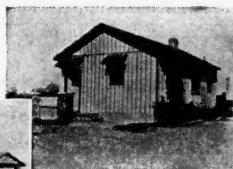
McClintic - Marshall

MADE OF STEEL  
**BUTLER**

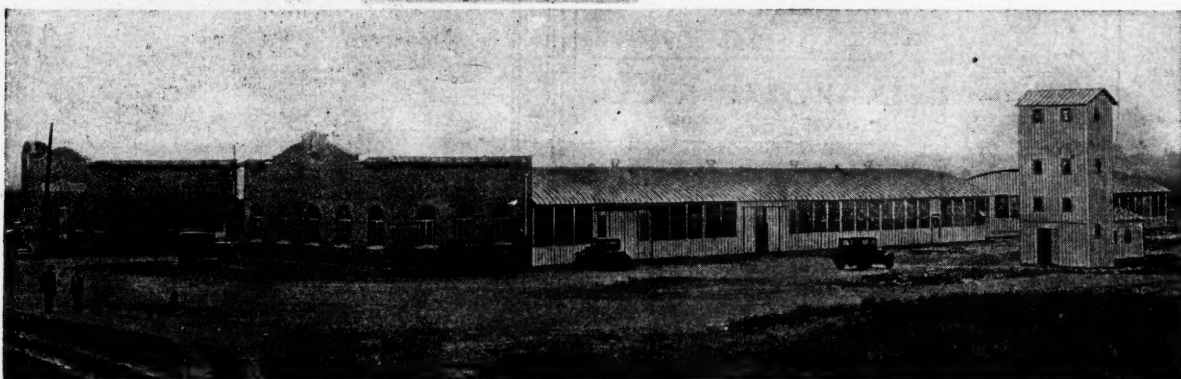
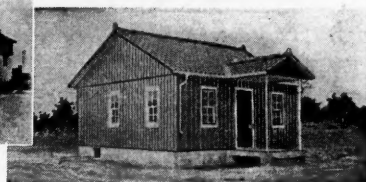
Duplex Bungalow



Cottage



Field Office



Above—Factory

READY-MADE  
STEEL  
BUILDINGS



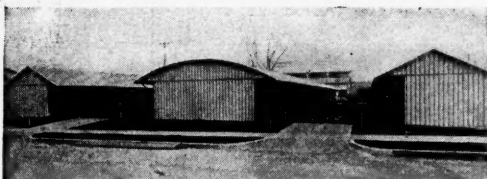
# SAVE

## For All Branches of Industry

**T**HERE is a distinct saving in their first cost as compared to any other non-combustible construction. Complete materials in ready-made, standardized structural units make possible quick and economical installation. Made entirely of steel, of steel and stucco or of steel and masonry—further savings are assured through low maintenance and small depreciation charges.

In one industry Butler Ready-Made Steel Buildings contributed to a two-thirds reduction in fire insurance rates. Enlargement at any time is only a matter of joining on standardized units of the necessary dimensions. The same features that contribute to quick and simple erection facilitate taking down and re-erection with no more loss than a few dropped bolts. Insulation with commercial wall board or plaster secures the comfort necessary where skilled workers are involved. The structural strength of steel, multiplied by Butler methods of shaping, gives to Ready-Made Steel Buildings characteristics of permanence which save you all thoughts of rebuilding for many years to come.

A new book picturing installations of many types of Butler Ready-Made Steel Buildings awaits the request of interested officials.

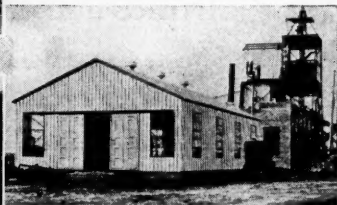
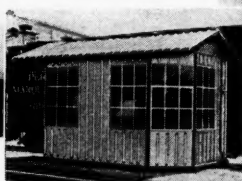


At Left—Parking Station

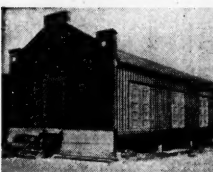
Below—Gasoline Refinery



At Right—Railway Scale House



Above—Mine Building



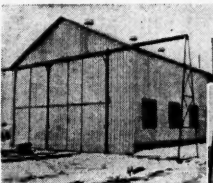
Freight Depot



Corn Crib



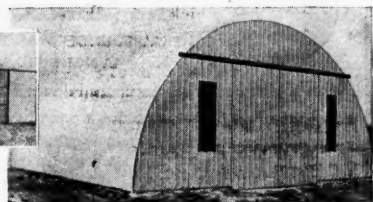
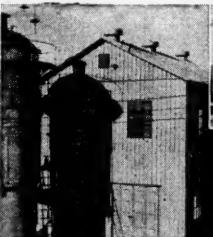
Airplane Hangar



Mine Building



Airplane Hangar

Above—Farm Machinery Shelter  
Below—Bus and Truck Garage

Above—Oil Well Service Plant

At Left—Processing Plant



# BUTLER MANUFACTURING COMPANY

1238 EASTERN AVE.,  
KANSAS CITY, MO.



938 SIXTH AVE. S. E.,  
MINNEAPOLIS, MINN.





**Mathews Fire Hydrant**

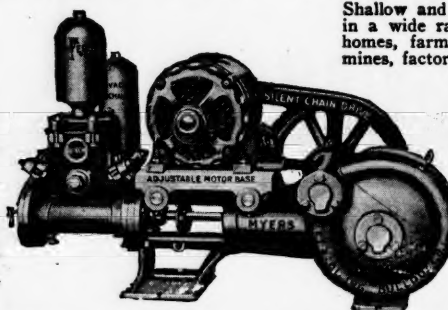
Because the entire barrel, with all parts, is removable, broken "MATHEWS" hydrants are easily replaced without digging.

CAST IRON PIPE and FITTINGS  
SAND SPUN (Centrifugally Cast)  
and PIT CAST  
GATE VALVES VALVE BOXES

**R. D. WOOD & CO.**  
PHILADELPHIA, PENNA.

"The Whole Works" Out in a Jiffy In business continuously since 1803

## MYERS SELF-OILING POWER PUMPS



Shallow and deep well types in a wide range of sizes for homes, farms, estates, mills, mines, factories and innumerable other places. Recent improvements simplify installation and maintenance and give them greater sales and service values than ever before.

Write or Wire.

**THE F. E. MYERS & BRO. CO., Ashland, O.**  
PUMPS—WATER SYSTEMS—HAY TOOLS—DOOR HANGERS

## SALT GLAZED SEWER AND CULVERT PIPE

Wall Coping, Drain Tile, Flue Lining, Chimney Tops, Hollow Tile, Fire Proofing, Vitrified Brick, Fire Brick

BANNON'S PATENT LIDDED PIPE FOR STEAM CONDUITS  
BANNON PIPE CO. LOUISVILLE, KY.

## FIRE CLAY, SEWER PIPE, FLUE LINERS and WALL COPING

Write for Catalogue and Discounts

Owensboro Sewer Pipe Co. Owensboro, Ky.

## CAST IRON PIPE AND FITTINGS

American Cast Iron Pipe Company  
BIRMINGHAM, ALA.  
SALES OFFICES IN PRINCIPAL CITIES

## ROTURBO CENTRIFUGAL PUMPS

Manistee Iron Works Co., Manistee, Michigan

## SAND PUMPS

A wide range of types in sizes 4" to 15"  
For belt drive and for direct connection to motor

Illustrated booklet on request

**GEORGIA IRON WORKS**  
AUGUSTA, GA.

## GLAMORGAN PIPE & FOUNDRY CO.

GENERAL FOUNDERS AND MACHINISTS  
LYNCHBURG, VA.

## UNIVERSAL CAST IRON PIPE

THE CENTRAL FOUNDRY COMPANY

Graybar Bldg., 43rd St. and Lexington Ave., New York, N. Y.  
Chicago Birmingham Dallas San Francisco

no packing no calking no bell holes

One-Fifth  
The  
Weight of  
Cast Iron  
Pipe



One-Third  
The  
Weight of  
Wrought  
Pipe

### AN ABSOLUTELY TIGHT DURABLE PIPE

The lap riveted seam repeats its cycle every twelve inches, forming a broad-stiffening rib of great value, and makes Root pipe one-third stronger than any other type of pipe construction. Light weight and simple connections reduce transportation handling and erection costs. Suitable for conveying water, air, gas, exhaust steam and powdered coal.

**ABENDROTH & ROOT MANUFACTURING COMPANY**  
Pipe Specialties Continuously Since 1867. Sales Office: Woolworth Bldg., N. Y.

## Stop the Leaks

In the construction of Dart Unions, the spherically constructed Bronze to Bronze seats eliminate the possibility of a leak. Extra heavy iron ends add strength and durability. Every Union is tested, and we guarantee to replace any defective union returned to us with two perfect ones.

We will mail you a free sample on request.

A shape and size to fit every need. Flanges, L's, T's, etc.



**DART UNIONS**

**E. M. DART MFG. CO., Providence, R. I.**  
The Fairbanks Co., Sales Agent.  
Dart Union Co., Ltd., Toronto, Canada.

# 5 Million Readers



## *...month after month will be faced with the facts about* **CAST IRON PIPE**

Water and gas engineers will be interested to know that, during the year 1931, full page advertisements in *The Saturday Evening Post*, *Collier's Weekly* and *Time Magazine* will continue to inform property owners concerning Cast Iron Pipe. Long life and tax-saving durability will be the keynotes of another year of educational advertising by which The Cast Iron Pipe Research Association seeks to cooperate with engineers, contractors and public-spirited citizens.

The facts about Cast Iron Pipe will also be told in a selected list of the most important water, gas and sewage publications.

Information regarding the greater durability, and hence the greater economy, of Cast

Iron Pipe can be obtained by addressing: Thomas F. Wolfe, Research Engineer, The Cast Iron Pipe Research Association, 309 Peoples Gas Building, Chicago, Illinois.

The Cast Iron Pipe Research Association is a service organization of leading pipe founders, formed to promote the scientific improvement and proper use of Cast Iron Pipe. Pipe bearing the Association "Q"-check trade mark may be obtained from any of the following:

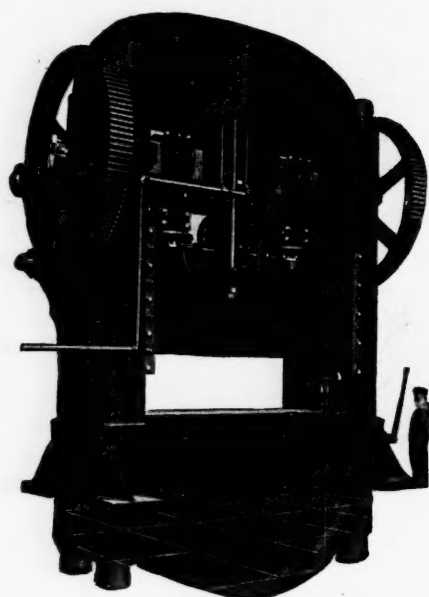


*Bell and spigot cast iron pipe embodies the three indispensable features of a perfect pipe joint — provision for expansion, contraction and deflection.*

Alabama Pipe Company, Anniston, Ala.; American Cast Iron Pipe Company, Birmingham, Ala.; James B. Clow & Sons, 219 N. Talman Avenue, Chicago, Ill.; Donaldson Iron Company, Emaus, Pa.; Glamorgan Pipe and Foundry Company, Lynchburg, Va.; Lynchburg Foundry Company, Lynchburg, Va.; National Cast Iron Pipe Company, Birmingham, Ala.; United States Pipe and Foundry Company, Burlington, N. J.; Warren Foundry and Pipe Company, 11 Broadway, New York.

# BLISS

The standard machinery  
for sheet metal operations



## Double Crank Presses

Manufacturers of a wide range of sheet metal goods, such as automobile parts, stoves, ranges, shingles, tractor parts, sidings for buildings, freight and passenger car parts, metal radiators, metal furniture, etc., have found that the Bliss Double Crank Press assures rapid, uninterrupted, and highly economical production, in many cases effecting surprising economies. This type of press is adapted to every sheet metal forming and stamping requirement and is but one of the large Bliss line of presses built for every kind of sheet metal operation.

It will pay you to become acquainted with the entire Bliss line. Write for full data on types suited to your individual requirements.

"Bliss" on your machinery is more  
than a name—it's a guarantee.

**BLISS** for MACHINERY

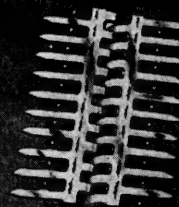
E. W. BLISS CO., BROOKLYN, N. Y., U. S. A.

Factories: Brooklyn, N. Y. Hastings, Mich. Salem, Ohio

Sales Offices: Detroit Cleveland Chicago Boston Philadelphia  
Cincinnati New Haven Rochester

Foreign Factories and Offices: London, Eng. Turin, Italy Paris, France

## ALLIGATOR STEEL BELT LACING



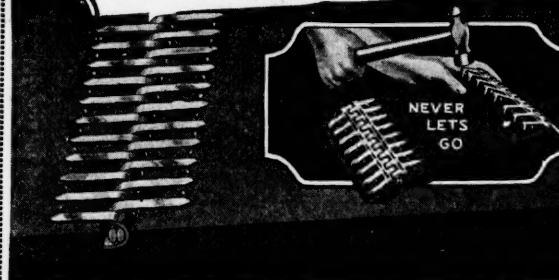
**Scientific Alligator Steel Belt**  
Joining Lacing holds the belt in a vise-like compression grip. Prevents ply separation at belt ends. The smooth flexible joint is reliable in service and has great surplus strength. It rocks on oval faces of the sectional hinge pin.

**Quickly and Easily Applied  
with Only a Hammer**

Combines the efficiency of an endless belt and the convenient take-apart feature. In general use on light, medium and heavy belts of all types. Made also in "monel metal". Eleven sizes. Sold the world over.

**FLEXIBLE STEEL LACING COMPANY**  
4690 Lexington Street Chicago, Illinois  
In England at 135 Finsbury Pavement, London, E. C. 2

To avoid imitations look for the Alligator on the yellow labeled box and stamped on the lacing.



## GOLD SEAL LATHES



20x10 Lathe  
\$950.00 F. O. B.  
Cincinnati

All types  
12 to 20 inch swing

The Sebastian Lathe Company, 2964 Culvert St.  
Cincinnati, Ohio

## No. 8 Imperial Punch Angle Iron Shear No. 4

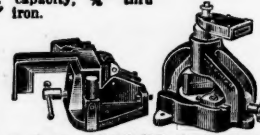


Operating handles will not become disengaged. Roller Bearing.  
This style made in 3 sizes, Nos. 7, 7 1/2, 8.  
Weight, 16 lbs.; capacity, 1/4" thru 3/4" iron.



Capacity 2" x 3" x 1/4" Angl- Iron. Weight, 44 pounds. Inserted Tool Steel Blades.

No. 50 Angle Iron Mitre Notcher and No. 51 Angle Iron Bender



Capacity, 2"x3"x1/4" Angle Iron or Smaller

Write for Catalog and Price List on Entire Line

**WHITNEY METAL TOOL COMPANY**  
117 FORBES STREET ROCKFORD, ILL.



## Goldens' Foundry & Machine Co.

COLUMBUS, GEORGIA

MANUFACTURERS OF

**MACHINE MOULDED PULLEYS  
HANGERS                      SHAFTING**

Couplings, Pillow Blocks, Floor Stands, Collars, etc.

Send for Price List and Discount Sheet

# OVERHEAD CONVEYORS

Put  
Ceiling  
To Work



Handle  
Material  
Of all Types

Write for Bulletin No. 2943-M.  
The Webster & Weller Mfg. Cos., 1856 N. Kostner Av. Chicago

## Webster and Weller

FINEST CONVEYORS FOR 50 YEARS

# P&H

Traveling  
Cranes and Hoists

**Harnischfeger Corporation**  
Established 1884  
Crane and Hoist Division  
4427 W. National Ave.  
Milwaukee, Wis.

# EARLE

The Earle Gear & Machine Co.  
4719 Stenton Avenue,  
Philadelphia, Pa.  
110 State St., Boston, Mass.  
95 Liberty St., New York City

Cut Spur, Bevel, Herringbone  
and Worm Gears

All sizes. Every description. Oper-  
ating Machinery for Bridges, etc.  
"Lea Simplex" Cold Metal Saws.

# GEARS

## CHARLOTTE LEATHER BELTING CO.

Plant and Office, Charlotte, N. C.  
Branch, 162 N. Clinton St., Chicago

MAKERS OF LEATHER BELT SINCE 1894

## ALLIS-CHALMERS MFG. CO.

MILWAUKEE, WIS., U. S. A.

DESIGNERS AND BUILDERS OF

Steam Turbines, Electrical Machinery, Steam, Gas  
and Oil Engines, Centrifugal Pumps, Crushing  
& Cement Machinery, Etc.



## A Testing Sieve with Rounded Inside Corners

THERE are no sharp corners in the new "Newark" sieve. No catching and holding of materials being tested. It is the latest development in testing sieves—far in advance of any other on the market. Those who have used the old design of sieve appreciate this important advantage.

Besides, there is the advantage that *all soldering is on the outside*. The wire cloth is more easily replaced on this sieve than on any other. The cloth is not distorted in any way.

We make this sieve in all sizes and meshes in accordance with U. S. Bureau of Standards specifications.

Please remember that we make wire cloth of all malleable metals. All meshes. All weaves. All lengths. All widths.

All "Newark" products are fully illustrated and described in our catalog No. 26. Ask for a copy.



FILL IN, TEAR OFF, AND MAIL

## Newark Wire Cloth Co.

360-374 Verona Ave., Newark, N. J.

☐ Without obligating us in any way please send a copy of your catalog No. 26.

We are interested in:—

- ☐ The Testing Sieve with rounded inner corners, soldered only on the outside, described above.
- ☐ The finest wire cloth in the world—400 mesh—160,000 square openings per sq. in.
- ☐ "Newark" Metallic Filter Cloth.
- ☐ Gasketed Metallic Filter Cloth.

Name .....

Firm .....

Address .....

WE MAKE A SPECIALTY OF  
**HIGH GRADE GREY IRON AND  
SEMI-STEEL CASTINGS**

All Kinds of Machine Work. Special Machines Made to Order.  
Prices Will Suit You. Prompt Service.

Salem Foundry & Machine Works Salem, Va.

**HIGH GRADE GRAY IRON & SEMI-STEEL CASTINGS**

From one pound to ten thousand pounds.  
Careful attention to detail.  
Your requirements solicited, quick service.

**JEFFERSON FOUNDRY COMPANY**  
Birmingham, Alabama

P. O. Box 147 Phone 9-4850

**GALVANIZING HOT DIPPED  
PROCESS**

The largest job galvanizing plant in the United States  
**GALVANIZED PRODUCTS FURNISHED**

**JOSEPH P. CATTIE & BROTHERS**

PHILADELPHIA, PA.

**GALVANIZING—Hot Process**

**Cadmium Plating a Specialty**

**GALVANIZED PRODUCTS FURNISHED**

**BIRMINGHAM GALVANIZING CO.**

Birmingham, Ala.

**DEEMER STEEL CASTING CO.**  
DEPENDABLE CASTINGS  
Shipped  
PROMPTLY  
PATTERN  
and  
MACHINE WORK  
CARBON  
MANGANESE  
ALLOY  
NEW CASTLE, DELAWARE

**ELECTRIC STEEL CASTINGS**

Weighting from 1 lb. to 500 lbs. each

Quantity Production A Specialty

Nickel, Chrome and Other Alloy

Quick Delivery

Inquiries Solicited

**CRUCIBLE STEEL CASTING COMPANY**

LANSDOWNE, DELAWARE COUNTY, PA.

**PATTERNS**

We make delivery promptly on your pattern work,  
under guaranteed quotations. Express Prepaid

**A. W. HAAS PATTERN CO.**

179½ Garnett St. S. W.

Atlanta, Ga.

**GENERAL**

Industrial Machine Work — Heavy and Medium  
Builders of Special Machinery  
Brick Yard Supplies

**FERNHOLTZ MACHINERY CO.**

Boyle Ave. and Missouri Pacific Railroad, St. Louis, Mo.

**From One Source**

You can secure your entire steel requirements  
from Bethlehem — with the assurance that each  
item is as good and dependable as the facilities  
of a completely equipped organization with years  
of experience can make it.

**BETHLEHEM STEEL COMPANY**

General Offices: Bethlehem, Pa.

District Offices: New York, Boston, Philadelphia, Baltimore, Washington,  
Atlanta, Pittsburgh, Buffalo, Cleveland, Cincinnati, Detroit, Chicago,  
St. Louis

Pacific Coast Distributor: Pacific Coast Steel Corporation, San Francisco,  
Los Angeles, Portland, Seattle, Honolulu.

**BETHLEHEM**



Biggs Welded or Riveted  
High Pressure Tanks,  
Vessels, Retorts, and Steel  
Plate Construction of  
every description. Write  
for folder shown at left.



**THE BIGGS BOILER WORKS CO.**  
Kent and Bank Streets, Akron, Ohio

**HEAVY STEEL PLATE  
FABRICATION**

OF EVERY DESCRIPTION

LET US QUOTE ON YOUR STANDARD OR SPECIAL WORK

**TRAYLOR ENGINEERING & MANUFACTURING CO.**  
ALLENTOWN, PENNSYLVANIA

**DIETRICH BROTHERS**

Structural and Ornamental Iron and Steel Works  
Large Stock of Standard and Bethlehem Shapes

**CONCRETE REINFORCEMENTS**

**BALTIMORE, MD.**

**STEEL**

DESIGNERS, FABRICATORS, ERECTORS  
of Structural Steel and Concrete Reinforcing Bars  
Immediate Shipments from Charlotte Stock  
Office and Plant: Little Pittsburgh  
CHARLOTTE, N. C.

**SOUTHERN  
ENGINEERING  
COMPANY**

**REINFORCING BARS**

Deformed. All sizes. Rounds and Squares ¼" to  
1¼" New Billet Stock. Straight or Bent.

Warehouse or Mill Shipments.

**KNOXVILLE IRON CO., Knoxville, Tenn.**

**QUALITY PIG IRON**

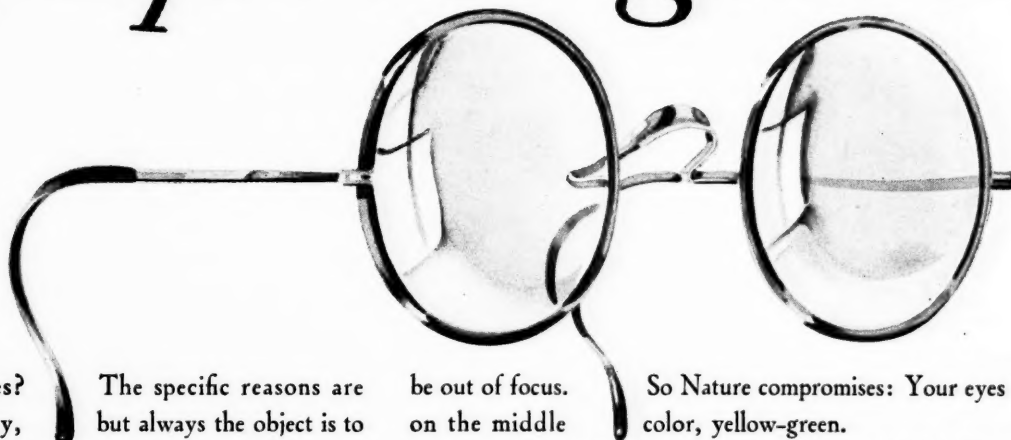
PLUS

*Intelligent Cupola Service*

**SLOSS-SHEFFIELD STEEL & IRON CO.**

BIRMINGHAM, ALA.

# Why *do people wear glasses?*



**W**HY wear glasses?  
varied and many,

improve impaired vision—to correct the focus of the eyes. Faulty focus, you know, makes objects appear hazy—blurs outlines and strains your eyes.

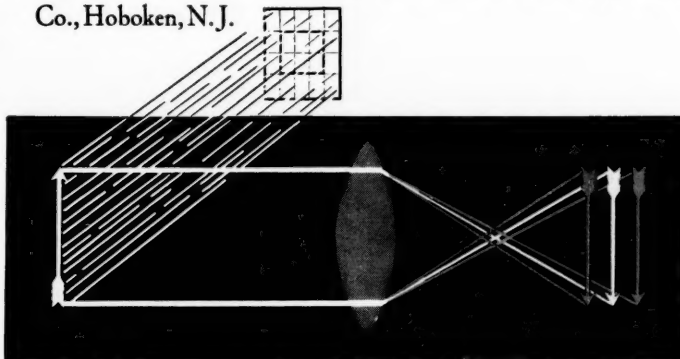
Weak eyes brought back to normal by the use of glasses, and even normal eyes without glasses, do not see objects as clearly as the construction of the eye permits. For there is a *natural* faulty focus of wholly *normal* eyes, which is caused by the complex mixture of colored rays that compose daylight or “white” light.

Your eyes are unable to bring all these colors in white light to the same plane of focus in the eye. Should your eyes focus on a color at one end of the spectrum, say red or orange, the colors at the other end, blue and violet, would

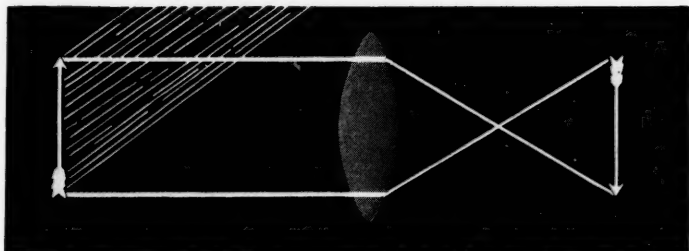
be out of focus.  
on the middle

So Nature compromises: Your eyes focus  
color, yellow-green.

Cooper Hewitt light is composed almost entirely of these yellow-green rays—That’s why all objects under Cooper Hewitt light are seen clearly and sharply without eye-strain. Have you read “Why Cooper Hewitt light is better than daylight?” A copy of this booklet is yours for the asking. General Electric Vapor Lamp Co., Hoboken, N.J.



Diagrammatic illustration of the effect produced when white light passes through a lens similar to that in the human eye. The light is split into its various colors, only one of which can be focused sharply. The other colors, being slightly out of focus, tend to make the image hazy.



When Cooper Hewitt light, which is 90% yellow-green, passes through a lens similar to that in the eye, the image produced is sharp and clear, for the effect is practically that of a single color, and that the best-seeing color and the easiest on the eyes.

*Join us in the General Electric Hour, broadcast every Saturday evening on a nation-wide N. B. C. network*

GENERAL  ELECTRIC  
VAPOR LAMP COMPANY

*(See next page)*



# *where* **WOULD** *you go* to thread a needle?

In an exaggerated circumstance—say, when you thread a needle—you recognize instantly the importance of both the adequacy and the direction of light. And just so does light play its part in your industrial plant.

. — .

Poor lighting annually exacts a tremendous toll from American industry. It is responsible for a high percentage of the “seconds” turned out in every plant. It is the direct cause of innumerable mistakes all along the production line, wasting materials, wasting time, wasting profits.

. — .

Exact figures on the number and value of rejects, seconds and other losses caused directly and indirectly by inadequate and improper lighting are, of course, most difficult to obtain. But this much can be said:

. — .

Only 15 per cent of America's industrial plants are adequately and properly lighted. In these, accidents are comparatively few, seconds run low and production is high.

. — .

Only 29 per cent can be said to be “fairly well lighted.” In these, accidents are more common, the



BETTER THAN DAYLIGHT

percentage of seconds runs higher and production is lower.

. — .

The remaining 56 per cent of all industrial plants are classed as poorly lighted. And in these, investigation has shown, the accident rate is high, the percentage of seconds is high and production is lowest.

. — .

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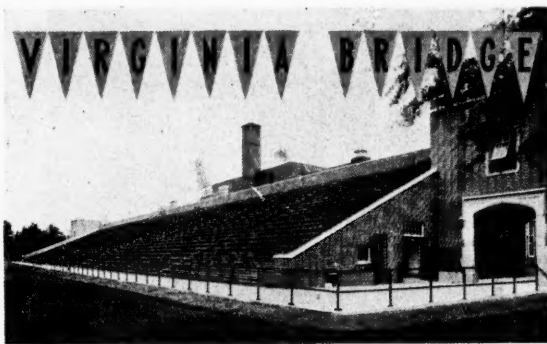
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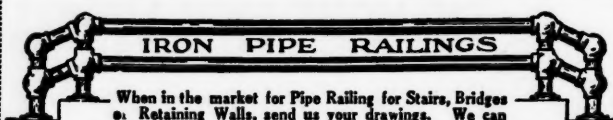
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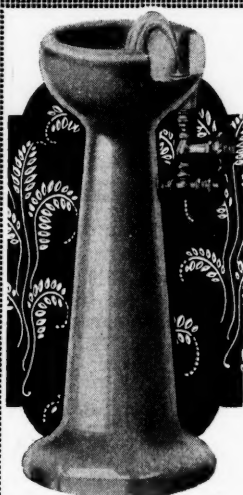
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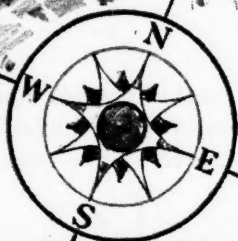
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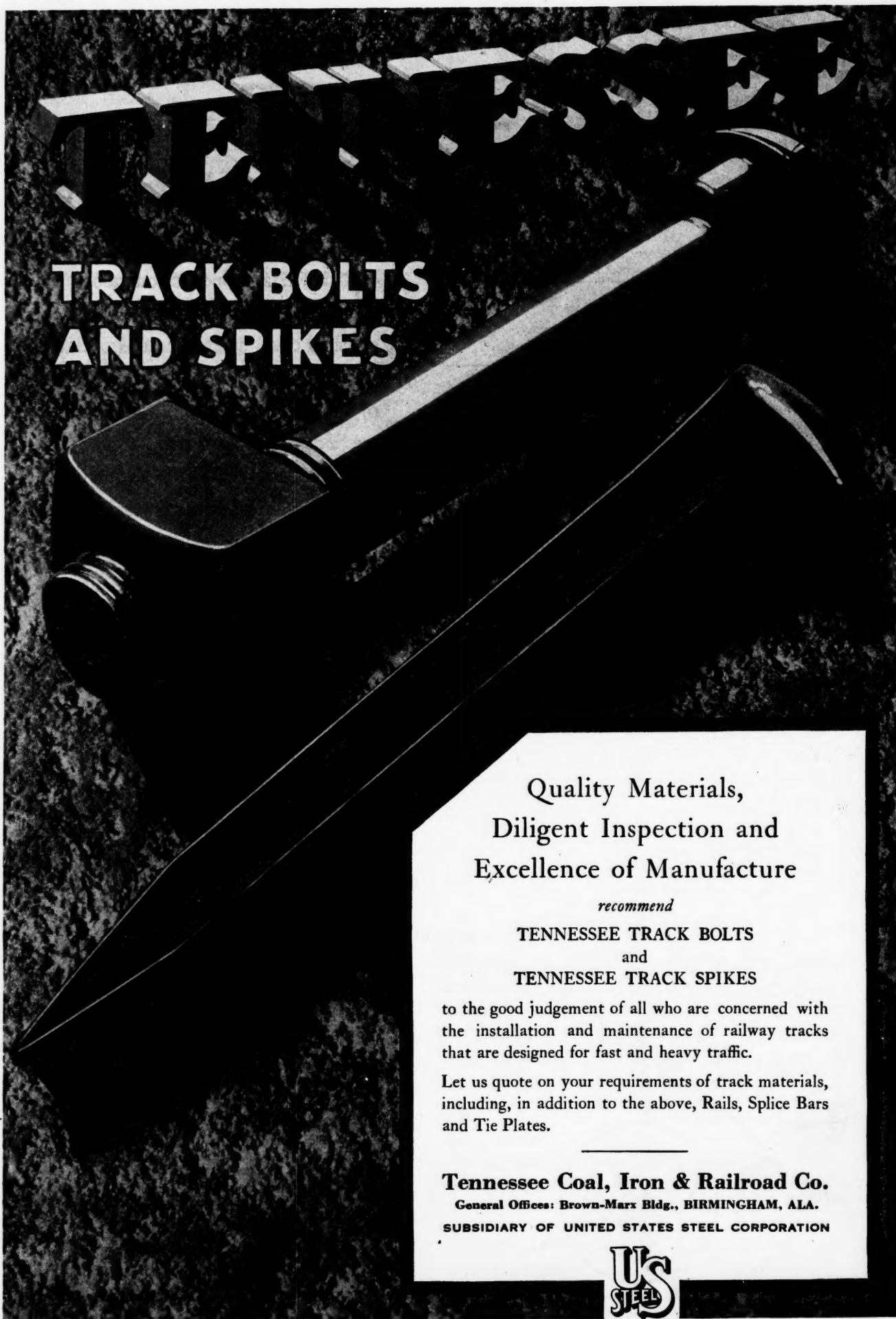
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Baltimore, Md., January 15, 1931

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## MANUFACTURERS RECORD

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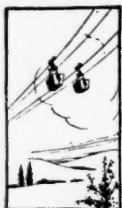
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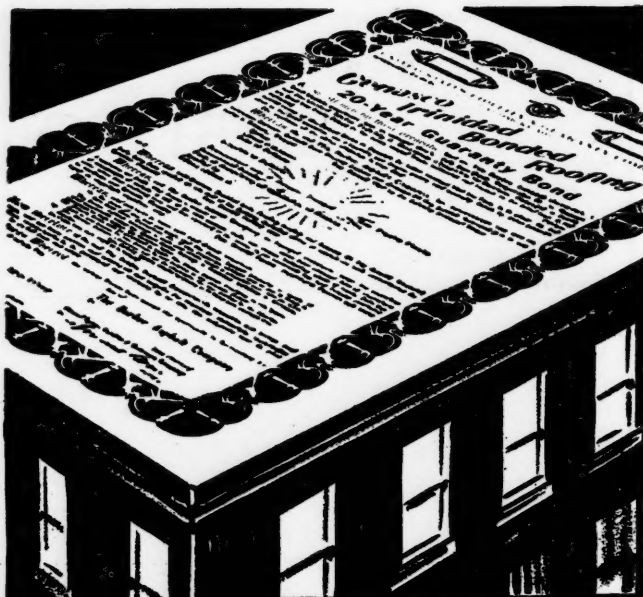
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# Manufacturers Record

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Devoted to the Upbuilding of the Nation Through the Development  
of the South and Southwest as the Nation's Greatest Material Asset

Vol. XCIX No. 3 }  
Weekly }

BALTIMORE, JANUARY 15, 1931

{ Single Copies, 20 Cents.  
\$6.50 a Year }

## No Extra Session of Congress Is Necessary

**T**HE regular session of the present Congress of the United States ends on March 4 next. The new Congress, under the Constitution, will not convene until the first Monday in December.

The main matter to be settled at the present session is the enactment of the various appropriation bills providing for the conduct of the Government. Should any one or more of these be held up in the remaining weeks of the regular session, resolutions to continue the latest former appropriations may be adopted. Appropriations for public buildings, roads, waterways, rivers and harbors have been made and it now remains for the immediate authorizations to be completed so that such work may start without delay. Other important questions, such as Muscle Shoals, Federal power regulation, the World Court and unemployment insurance will require a degree of calm deliberation that may render passage difficult in this session, but these problems may well go over to the next regular session, so that they may be studied and weighed in the interim.

We want to give credit to the earnest, painstaking, patriotic lawmakers in both the Senate and House of Representatives, who in our opinion are actuated in the main by the highest and best motives for the country's welfare. To decry the efforts of these men, as is too often done by those who are uninformed concerning the questions pressing for settlement and the means being taken to settle them, does not help the country, nor does it hasten the return of prosperity. Criticism should be constructive and helpful. That is well within the right of the press and public.

We believe we express the thought of a majority of the business men of America when we submit to our

lawmakers the suggestion and hope that they see to it, when adjournment is taken on March 4, that no extra session shall be required.

There is very definite fear that further efforts to ameliorate present conditions will hurt and not help. Business is in a halting state. It wants, in this pause that is upon the country, to check up and see where it stands. It is in dread of new legislation, no matter how well meant. That dread intensifies the halting.

As we pointed out last week, in these economically unsettled times more than usual precaution against unwise legislation must be taken. There is danger in demagogism, class agitation and sentimentalism. Recent political manoeuvres of certain factions and individuals in both houses of the Congress tend to alarm business.

Washington almost monopolizes the headlines and the news columns. Controversial subjects are emphasized and the more sensational the arguments may be, the more they are emphasized. The perspective of business America becomes distorted. The business mind is kept upset at a time when it should concentrate on business. The discussion which takes place on sensational propositions is disturbing and unsettling.

Business may be left for a while to the settlement of its own problems. Economic laws require patience in their working out. Throughout the country there has been too much hysterical thinking. We have tried to provide jobs where none existed. Supply and demand are still to reconcile their differences and they are doing so. We earnestly urge upon those who have a singular responsibility as to our welfare, that they meet the wishes of the business men of the country.



## Fire Protection

**F**IFTY million dollars a year in "farm relief" is suggested by the Department of Agriculture through the simple expedient of cutting in half the nation's annual farm fire loss of \$100,000,000. Provision of simple fire-fighting equipment, organization of community fire companies and exercise of care in the location of farm buildings are factors in the department's scheme.

Next to precaution against fire, the availability of water and handiness of apparatus for fire-fighting are the important items and in these days both the water and the apparatus should be easily obtainable. Compact steam or electric, or oil and gas driven pumps for pressure are offered for every type of service. Water tanks are essential equipment for every farm, and tanks of large capacity cost little more, comparatively, than smaller sizes. Hose and couplings, hand fire-extinguishers, buckets and other paraphernalia round out the necessary equipment.

This general investment, it may be added, in all probability will be somewhat balanced by reduction in fire insurance rates, which in the aggregate for buildings and contents may prove no negligible offset. The foresightedness of protected farmers doubtless would not pass unnoticed.

## Referendum on Russian Recognition

**P**ROBABLY the nearest approach to an American referendum on United States recognition of the Soviet government has resulted in an almost unanimous vote in the negative. Of more than 3000 answers to a questionnaire circulated by the Committee on Russian affairs of the National Civic Federation, only 27 advocated recognition of Soviet Russia, the committee announces.

"Are you in accord with our Government's steadfast policy of refusing recognition until Russia shall prove itself fit to associate with civilized nations?" was the principal question. "Are you in favor of adequate legislation to prohibit the Union of Soviet Socialist Republics from dumping commodities on our shores and demoralizing our market?" was another of importance.

"The general spirit characterizing the accompanying letters shows that our representative citizenry is solidly back of our Government's non-recognition policy, so steadfastly maintained by every Administration from Woodrow Wilson's to Herbert Hoover's," the report concludes.

Among the many Southerners who voted against recognition, the following are picked almost at random: T. O. Vinton, president of the Bank of Commerce & Trust Company, Memphis; C. D. Terrell, secretary, Athens (Ga.) Chamber of Commerce; J. B. Hill, president of the Nashville, Chattanooga &

St. Louis Railroad; J. L. Lancaster, president of the Texas & Pacific Railway; and Ellison A. Smyth, president of Balfour Mills, Inc., Flat Rock, N. C.

The only major argument so far advanced for recognition has been that it will promote trade. To this lure the South declines to respond.

## Cotton Acreage

**I**N discussing cotton acreage for the coming season, a cotton authority informs the MANUFACTURERS RECORD that if present indications are realized there is sure to be a considerable reduction. Estimates vary in different sections of the Cotton Belt from 5 to 25 per cent, or an average somewhere around 10 to 15 per cent, but any estimate is highly problematical at the present time. Even should there be an acreage reduction of as much as 10 or 15 per cent, would it be sufficient in the face of the large crop of 1930, the large carry-over and reduced consumption? The extent of reduction will depend to some degree on the success of the grain crops. The trend of cotton prices between now and the time to plant also will play a part, and it is obvious that if prices remain approximately at present levels, there will not be so much land put into cotton this year.

It is the belief of our informant that there will be a stronger tendency to reduction in some of the older cotton states because of greater cost of growing cotton in those sections as compared to parts of the Southwest, where mechanical means of cultivating and harvesting are an important factor in lower production costs.

It is recognized that well-planned diversification is a necessary element in successful farming. As a concrete example, the December issue of the *AcCo Press*, published at Houston by Anderson, Clayton & Co., in an article "A Garden, A Cow, A Hen, A Sow," tells how one Texas family solved its agricultural problem. And in comment thereon, Alston Clapp, Sr., says: "To a great extent it is not the 'business' that fails, but it is the 'man' who does not apply methods that in the natural sequence of results could be reasonably expected to produce successful achievement." In that same issue the subject of growing more and better cotton on fewer acres is discussed under the heading, "We Must Grow Better Cotton." Southern farmers will soon be planning for this season's acreage. The MANUFACTURERS RECORD again would urge that Southern growers heed the advice of such authorities as Anderson, Clayton & Co., and Federal, state and local agencies and reduce their acreage and grow cotton of a better grade. And upon Southern bankers and others who supply credit to the farmer rests a great responsibility for educational work of a broad character. Only by concerted action of all interested in the welfare of the cotton industry may it reasonably be expected that any real headway can be made.

## Steel Ingot Production Double That of 1921

**D**URING the business recession of 1930 the manufacture of steel ingots was one major industry of the country which made a substantial showing when compared with former periods of depression. With the calculated monthly total of steel ingot production for December amounting to 2,008,000 tons, reported on January 7 by the American Iron and Steel Institute, the 1930 output of the industry was 39,652,000 tons.

While the steel ingot production of 1930 was 14,660,000 tons, or 26 per cent, less than the 54,312,000 tons as the calculated output of all companies for the record established in 1929, it was 1,720,000 tons larger than the steel ingot and casting production of 1924; and it was 4,050,000 tons more than the production of 1922 and more than double the output during the depression of 1921, when only 19,783,000 tons of steel ingots were produced. The production in 1921 was the lowest recorded in any year subsequent to 1908. Even in 1919, following three years of high production because of the World War, the steel ingot output dropped to 34,671,000 tons.

A study of the accompanying table reveals the wide fluctuations between the high and low levels of steel ingot output in the past 21 years.

### STEEL INGOT AND CASTINGS PRODUCTION

Year	Gross Tons
1910	26,094,919
1911	23,676,106
1912	31,251,303
1913	31,300,874
1914	23,513,030
1915	32,151,036
1916	42,773,680
1917	45,060,607
1918	44,462,432
1919	34,671,232
1920	42,132,934
1921	19,783,797
1922	35,602,926
1923	44,943,696
1924	37,931,939
1925	45,393,524
1926	48,293,763
1927	44,935,185
1928	51,544,180
1929	*54,312,279
1930	*39,652,539

\*Calculated production steel ingots.

It is significant that the activity in the steel ingot industry, in a sense has paralleled the fluctuations of the output of the automobile industry. The latter industry uses from 15 per cent—going as high as 19 per cent in 1929—of the iron and steel output of the country.

Since the World War, when the automobile industry began to make such a remarkable record, the

production of motor cars and trucks in the United States has been as follows:

Year	Number of Motor Vehicles
1919	1,933,595
1920	2,227,349
1921	1,616,119
1922	2,545,222
1923	4,033,248
1924	3,605,206
1925	4,265,830
1926	4,300,934
1927	3,401,326
1928	4,359,087
1929	5,358,414
1930	*3,300,000

\*Estimated United States excluding Canada.

## Inspiring Contrast

**T**HE esteemed Charlotte Observer, in speaking of the deflation that has taken place in security prices, says in a recent editorial:

"As a matter of fact, dwellers in the Piedmont section of North Carolina must go away from home to get an idea of what 'depression' really means, for conditions in this particular part of the country are infinitely better than in the sections where the pressure has been felt most heavily. It is worthy of note, also, that Charlotte business people, returned from New York in recent days, wear cheerful faces in consideration of the contrast in the situation here and in that center."

The gloom of New York, the financial center of the country, has been depressing. And quite naturally so. As the financial center of the country where market levels exercise such a controlling effect upon sentiment, it is to be expected that having descended from the heights to the depths there should come about a resulting feeling of pessimism. Unfortunately, the sentiment conveys itself in more or less degree to the contacts which New York has with other places, and they are many. It is well to bear in mind, however, that in this great country many sections and many localities are virtually immune from the influences that pervade the financial metropolis. Those who travel come in touch with the residents of other places and witness their optimism, their buoyancy and their unflinching confidence in the greatness of America, and there is an inspiration and a rekindling of faith in the future.

The New York Times the other day very interestingly called attention to the undisturbed prosperity of Greeneville, Tennessee, a market town that depends upon the activities of the farmers in the surrounding territory, and that paper's comment was that there was no depression there. The farmers' crops have been good; stores were busy with their usual Christmas activity; spending was being freely done and hopefulness and optimism prevailed. That is the way it should be. A visit to Main Street and to the places removed from financial gloom and depression is more than worthwhile occasionally. They reflect, after all, what is the backbone of America.



# \$921,000,000 Awards in Construction and Building in South for 1930

**C**ONSTRUCTION, engineering and building contracts awarded last year in the sixteen Southern States had a total valuation of \$921,715,000. These figures are compiled from the construction reports of the MANUFACTURERS RECORD. This is the highest total of record, exceeding by \$141,000,000 the 1929 total, and surpassing the previous high total recorded in 1926 by \$30,000,000.

Particular encouragement is to be gained from a consideration of the total representing contemplated construction projects announced in the last three months of 1930 which call for an expenditure of more than \$301,000,000 compared with \$312,000,000 representing the estimated cost of contemplated projects announced in the first three months of the year.

The 1930 total is particularly significant when it is remembered that only those projects are included for which actual figures were available as to cost, no effort having been made to estimate the contract prices of scores of varied projects and structures on which no cost figures were given. Moreover, thousands of residential structures and small projects, including building repairs, alterations and additions, costing under \$10,000 each, are not reported. These in the aggregate would amount, it is estimated, to several hundred million dollars additional. Conservative belief is that inclusion of the above items would bring the contract total for last year to upwards of \$1,250,000,000.

## Gas Pipeline Construction Features Year's Activity

**C**ONSTRUCTION of the great natural gas pipeline distribution systems from

fields in Louisiana, Texas, Oklahoma, Mississippi, West Virginia and Kentucky to distant industrial centers accounted for \$200,000,000 in construction awards last year. Even if these important projects were excluded, the value of construction in the South would show a decline of only 5 per cent from the 1929 total. This indicates that the recession in building and construction work throughout the country generally was far more severe than in the Southern states.

Judging from the large volume of con-

belief in the soundness of the nation's business structure as manifested in the launching of new industrial ventures, new building enterprises and improvement and expansion programs by local and outside interests.

## Big Value of Projected New Work

**P**RELIMINARY announcements covering proposed projects from January to June, inclusive, called for an expenditure of more than \$637,000,000. Despite the effects of depression and the drought, the total representing projects of a similar nature declined to but \$550,000,000 in the last half of 1930. While many projects included in the total for the last half of the year have since been let to contract, there are numerous important new enterprises still in a tentative stage and in the hands of architects and engineers, and these will be let to contract this year. Such programs cover a diversity of new enterprises in all parts of the South. Apparently business leaders are preparing to take advantage of improved conditions when business turns the corner.

Considering the monthly totals of awards, June led with contracts having a valuation exceeding \$226,000,000, the highest monthly total of record. The previous high figure was set in April, 1929, when awards aggregated \$107,000,000. In July, awards amounted to \$103,500,000. During these two months contracts were let for several major gas pipeline distributing systems to serve northern and western industrial centers. February awards aggregated over \$75,340,000. A new record in awards was made for the last month of the year, the total valuation for December exceeding

### DECEMBER, 1930

	Contracts Awarded	Proposed
Apartment houses and hotels .....	\$4,150,000	\$2,083,000
Association and fraternal .....	458,000	50,000
Bank and office buildings .....	3,610,500	770,000
Church buildings .....	396,000	3,665,000
City, county, government and state projects .....	9,183,000	8,954,000
Dwellings .....	2,704,000	1,867,500
Miscellaneous .....	15,109,500	14,507,500
Roads, paving and bridges .....	19,914,500	39,232,000
School buildings .....	3,930,500	7,864,000
Sewers, drainage and water works .....	4,792,000	12,792,000
Store buildings .....	602,000	928,500
<b>Total .....</b>	<b>\$64,850,000</b>	<b>\$92,713,500</b>

templated projects and the carefully considered plans for carrying forward this year public improvement work in record amount; the ambitious expansion work of nationally known industrial firms, utilities and railroads; and the private and public building programs, it is apparent that the South will take a leading part in a revival of industry and business, just as it did following the depression of 1921. There is being demonstrated a convincing faith in the possibilities of the Southern states, and a

## Summary by Classification of Contracts Awarded and Proposed Work

	Contracts Awarded			Contracts Awarded	Contracts Proposed
	1927	1928	1929	1930	1930
Apartment houses and hotels .....	\$91,632,500	\$99,109,000	\$63,844,500	\$44,879,500	\$47,519,500
Association and fraternal .....	5,856,000	10,441,000	5,108,000	3,740,500	8,674,000
Bank and office buildings .....	52,883,500	53,834,000	44,950,500	28,775,500	23,774,000
Church buildings .....	31,304,000	24,492,500	18,680,500	12,441,500	18,464,500
City, county, government and state projects .....	29,637,000	11,847,500	13,243,000	46,641,000	75,383,000
Dwellings, costing \$10,000 and over .....	54,950,500	57,973,500	64,352,000	36,006,000	20,046,500
Miscellaneous .....	145,643,000	163,928,500	214,740,000	365,883,000	459,824,500
Roads, paving and bridges .....	241,597,500	254,695,000	239,300,500	256,314,000	309,879,500
School buildings .....	58,707,000	69,384,000	53,334,500	67,542,500	81,493,000
Sewers, drainage and water works .....	34,979,500	31,968,000	31,002,000	47,289,500	96,113,000
Store buildings .....	27,690,000	29,001,000	31,425,500	12,199,000	16,396,000
<b>Total .....</b>	<b>\$774,885,500</b>	<b>\$806,674,000</b>	<b>\$779,981,000</b>	<b>\$921,715,000</b>	<b>\$1,187,567,500</b>



\$64,850,000, compared with a total of \$36,300,000 representing construction awards for the corresponding month of the preceding year, and \$57,862,000 in December, 1928.

### Outlook Bright for Early Months This Year

IN EACH of the last four months of 1930 the awards had a value exceeding the corresponding months of 1929. Thus, with the lettings in the last quarter of 1930 and the huge volume of *projected* new undertakings, the outlook for a continuation of construction and industrial work during the early months of this year is very bright. And as to the rest

Comparative Record of Construction in South

	Contracts Awarded				Proposed 1930
	1927	1928	1929	1930	
January .....	\$60,480,500	\$52,593,000	\$67,132,500	\$39,149,000	\$81,518,000
February .....	43,378,500	50,053,500	61,556,500	75,340,500	113,339,500
March .....	81,482,000	75,164,000	53,707,500	69,753,000	117,563,000
April .....	59,025,000	72,648,500	107,097,500	52,242,500	101,256,500
May .....	67,463,500	82,129,500	105,506,500	75,023,500	129,561,500
June .....	68,113,000	84,030,500	60,285,500	226,168,500	93,791,500
July .....	74,576,000	73,320,500	64,263,500	103,549,500	118,548,000
August .....	71,243,500	86,538,000	89,675,500	61,175,000	68,971,000
September .....	92,038,500	49,032,500	46,053,500	46,738,500	61,699,000
October .....	46,237,500	47,913,500	53,711,000	65,658,500	98,602,500
November .....	50,604,500	75,383,000	34,691,500	42,066,500	110,003,500
December .....	60,243,000	57,862,500	36,300,000	64,850,000	92,713,500
Total .....	\$774,885,500	\$806,674,000	\$779,981,000	\$921,715,000	\$1,187,567,500

of the year, with the Government aiding in relief of unemployment through increased appropriations for highway construction and speeding up its public building program, and with numerous important projects on which construction

has been deferred, together with opportunities to effect savings through decreased cost of materials, there is virtually assured an encouraging construction program for the South throughout 1931.

## 1930 Southern Public Improvement Bond Sales Total \$400,000,000

PUBLIC improvement bonds marketed last year by the sixteen states of the South, as reported weekly in the financial news columns of the MANUFACTURERS RECORD, had a total par value of \$400,510,000, the second highest total of record. In the preceding year the par value of 838 issues marketed was \$331,467,000, and in 1928 the Southern public improvement bonds sold had a total par value of \$350,697,000, representing 1066 issues.

The high record for bond sales was set in 1927, when 1445 issues with an aggregate par value of \$482,164,000 were sold.

Bonds sold for road, paving and bridge work in 1930 set a new high record, the total being \$195,399,000 for 236 issues. The previous high total for road bond sales was recorded in 1927, when 488 issues, having a par value of \$182,337,000, were sold. The 1930 total for this classification exceeds by a big figure the 1929 road bond sales, amounting to \$143,476,000, representing the par value of 209 separate issues.

Bonds marketed last year for miscellaneous public improvements held second place, the total for 1930 being \$147,588,500, representing 267 issues. While this figure is surpassed by the totals for 1926, 1927 and 1928, it shows a big increase over miscellaneous bond sales in 1929, when 287 issues with a par value of \$118,076,500 were disposed of. This

classification includes bonds for a wide variety of construction and engineering projects that cannot be classified in the other three divisions of the tables which are shown on the following page.

Bond issues sold for school building totaled 195, the par value amounting to \$31,309,500 as compared with 208 issues with a par value of \$35,293,500 marketed in the preceding year.

Bond issues sold for drainage, dredging and irrigation projects, sewer and waterworks in 1930 numbered 114 with a par value amounting to \$26,213,000. In the preceding year 134 separate issues, with an aggregate par value of \$34,621,500, were sold to finance like projects.

### Securities Sold by States

Considering the value of securities sold by states in 1930, Texas heads the list, the total being 177 issues of a par value of \$54,085,000. Tennessee is a close second, with sales aggregating \$52,638,000, the par value of 70 issues. Missouri, with the sale of 31 issues having a par value of \$41,144,000, is third. Kentucky is fourth, with sales amounting to \$40,227,500, representing 30 separate issues.

To finance highway projects, Kentucky heads the list, having sold last year 9 issues with an aggregate par value of \$34,632,000. Arkansas with sales aggregating \$30,460,000, representing 20 issues,

is second. Missouri stands third with the sale of 10 issues with a total par value of \$27,755,000.

Tennessee holds first place in the sale of bonds for miscellaneous projects, having marketed for that purpose last year 34 issues with an aggregate par value of \$44,097,500. North Carolina is second in this classification, with the sale of 60 issues having an aggregate par value of \$21,545,500. Texas is next, having sold in 1930 a total of 39 issues with a par value amounting to \$15,892,000.

In the sale of school bonds, Texas holds the premier position, the total being \$8,025,500, representing 50 issues. North Carolina is second, with \$3,339,000 as the par value of 16 issues. Missouri stands next, with the sale of 10 issues totaling \$3,282,000.

In the first month of last year 57 issues with a par value of \$58,743,500 were marketed. In April, 81 issues totaling \$57,665,000 were sold. June sales stand third, amounting to \$46,688,000, representing 87 issues. Thus, with the proceeds available in the first six months, public construction projects were carried forward at a high level in the states from Maryland to Texas. During the remainder of 1930 public improvement bond sales were at a reasonable level, increasing in the last month of the year to more than \$35,000,000.

Roads, bridge and paving construction features the public improvement pro-

## Summary of Public Improvement Bond Sales in the South

### SOUTHERN BOND SALES IN 1930, BY MONTHS

	Roads		Schools		Sewers, etc.		Miscellaneous		Total	
	Issue	Value	Issue	Value	Issue	Value	Issue	Value	Issue	Value
January .....	13	\$16,109,000	9	\$3,845,000	7	\$ 645,000	28	\$ 38,144,500	57	\$ 58,743,000
February .....	20	8,189,500	13	2,981,000	13	2,105,500	23	18,678,000	69	31,954,000
March .....	22	35,625,500	9	1,817,500	8	1,782,000	22	8,529,000	61	47,754,000
April .....	24	25,315,000	22	7,003,000	16	5,746,000	19	19,601,000	81	57,065,000
May .....	20	4,134,500	28	3,092,500	13	1,425,000	28	11,806,000	89	20,458,000
June .....	20	26,607,000	24	4,148,000	12	4,188,500	31	11,744,500	87	46,688,000
July .....	22	25,629,500	12	1,163,500	6	1,373,500	18	4,211,000	58	32,377,500
August .....	19	10,960,000	14	1,336,500	6	2,785,000	22	5,835,000	61	20,916,500
September .....	20	6,955,000	17	1,188,000	5	2,464,000	24	4,416,000	66	15,023,000
October .....	29	7,493,000	22	1,874,000	9	372,000	18	8,506,000	78	18,245,000
November .....	11	4,516,000	17	2,045,500	8	1,061,000	15	7,283,000	51	14,905,500
December .....	16	23,865,000	8	815,000	11	2,265,500	19	8,384,500	54	35,780,000
<b>Totals .....</b>	<b>236</b>	<b>\$195,399,000</b>	<b>195</b>	<b>\$31,309,500</b>	<b>114</b>	<b>\$26,213,000</b>	<b>267</b>	<b>\$147,588,500</b>	<b>812</b>	<b>\$400,510,000</b>
1929 .....	209	\$143,476,000	208	\$35,293,500	134	\$34,621,500	287	\$118,076,500	838	\$331,467,500
1928 .....	331	138,114,500	266	37,114,500	138	21,752,000	331	153,716,000	1066	350,697,000
1927 .....	488	182,337,000	309	55,217,500	176	46,918,000	472	197,691,500	1445	482,164,000
1926 .....	376	118,552,100	298	61,282,300	141	27,258,000	349	187,489,200	1164	394,581,600
1925 .....	428	153,438,003	337	57,060,000	195	45,858,700	382	136,477,497	1342	392,834,200

### BOND SALES BY STATES—1930

	Roads		Schools		Sewers, etc.		Miscellaneous		Total	
	Issue	Value	Issue	Value	Issue	Value	Issue	Value	Issue	Value
Alabama .....	10	\$ 3,749,000	3	\$ 160,000	7	\$ 1,961,000	16	\$ 3,827,000	36	\$ 9,697,000
Arkansas .....	20	30,460,000	14	1,901,500	5	363,500	7	2,165,000	46	34,890,000
Florida .....	1	85,000	4	213,000	...	...	11	3,277,000	16	3,575,000
Georgia .....	7	825,500	11	953,000	2	215,000	5	3,357,000	25	6,350,500
Kentucky .....	9	34,632,000	7	1,251,500	8	2,790,000	6	1,554,000	30	40,227,500
Louisiana .....	13	9,618,500	19	2,110,000	16	5,698,500	7	2,446,000	55	19,873,000
Maryland .....	6	7,758,000	5	1,951,000	4	2,634,000	7	8,753,000	22	21,096,000
Mississippi .....	30	2,810,000	13	654,000	6	1,133,500	23	8,484,500	72	13,082,000
Missouri .....	10	27,755,000	10	3,282,000	3	85,000	8	10,022,000	31	41,144,000
North Carolina .....	16	3,751,000	16	3,339,000	7	1,659,000	60	21,545,500	99	30,294,500
Oklahoma .....	8	3,462,000	20	3,034,000	20	2,279,500	15	2,117,000	63	10,892,500
South Carolina .....	8	20,564,000	7	840,000	7	1,560,000	10	11,813,000	32	34,777,000
Tennessee .....	21	6,037,500	10	2,075,000	5	428,000	34	44,097,500	70	52,638,000
Texas .....	70	20,091,500	50	8,025,500	18	4,076,000	39	15,892,000	177	54,085,000
Virginia .....	2	600,000	4	920,000	6	1,330,000	18	8,179,000	30	11,029,000
West Virginia .....	5	17,200,000	2	600,000	...	...	1	59,000	8	17,859,000
<b>Total .....</b>	<b>236</b>	<b>\$195,399,000</b>	<b>195</b>	<b>\$31,309,500</b>	<b>114</b>	<b>\$26,213,000</b>	<b>267</b>	<b>\$147,588,500</b>	<b>812</b>	<b>\$400,510,000</b>

gram of 1930 in the South. Careful estimates indicate that upwards of \$560,000,000 was expended for new construction and for maintenance of existing facilities. State funds were supplemented by bond issues voted by counties, parishes and districts to finance projects on both primary and secondary road systems. Fast growing communities and

rapidly developing residential subdivisions in all parts of the South pushed work in 1930 on paving projects to keep pace with the growth in industry and building. South Carolina voted its first state highway bond issue of \$65,000,000 last year. Kentucky, Tennessee, West Virginia and Arkansas pushed construction on state-owned toll bridges, financed

out of bond issues voted solely for this purpose. Texas is considering a state highway bond issue of \$175,000,000. An extra session of the West Virginia legislature authorized the sale in the spring of 1930 of \$15,000,000 state road bonds. An additional \$10,000,000 will be sold this year. In November, Louisiana voted \$75,000,000 road and bridge bonds.

Large sums of money are being expended as a result of the voting of bonds to finance erection of courthouses, municipal office buildings, fire stations, municipally owned airport facilities; for publicly owned port projects, such as piers, warehouses, crane elevators, waterfront terminals, and for a wide diversity of other structures.

### \$13,800,000 Santa Fe Budget

A capital improvement budget of \$13,800,000 for 1931 has been approved by directors of the Atchison, Topeka & Santa Fe Railroad. Expenditures will be made as follows for major items: \$1,400,000 for heavier rail and track material; \$1,000,000 for bridges, trestles and culverts; \$730,000 for the elimination of grade crossings; \$2,100,000 for additional yard tracks; \$1,200,000 for signals and interlocking plant; \$925,000 for station and office buildings, and \$800,000 for water stations and equipment.



Concentration of Natural Gas Pipelines at World's Largest Meter Station, Sterling, La.



# Great Strides in Southern Industry

**I**NDUSTRIAL development in 1930 in the territory from Maryland to Texas, though retarded by the general business depression throughout the country, nevertheless went forward in encouraging volume. The outstanding feature of expansion in Southern industry was the completion in practically every part of the territory of major undertakings which were started during the height of the boom. Along with these big projects, work went forward on numerous smaller enterprises, including new plants, and extensions and improvements to established factories.

A review of industrial and engineering projects undertaken last year shows that electric power systems, artificial and natural gas distributing concerns, the railroads, telephone and telegraph companies speeded up construction activities generally to keep pace with anticipated growth in industry and business.

Outstanding, typical industrial projects announced in the last two months of 1930, and listed in an accompanying summary, call for a total expenditure of more than \$224,000,000. In this recapitulation, no project under \$500,000 was included, nor was any attempt made to cover all the important new undertakings, but only to select here and there in the South representative enterprises. The carry-over into the new year assures a large volume of industrial construction in the early months of 1931.

## *Diversity of Industries Concentrating in the South*

**A** RÉSUMÉ of developments as unfolded from week to week in the construction news columns of the MANUFACTURERS RECORD shows that the forward movement in Southern industry that began in 1921 continues. During each of the past few years unusual growth in some particular line of industry has featured each year's activities. For instance, in 1921 and the period immediately following, the nation's attention was centered on the concentration in the South of the textile industry, made conspicuous by the movement of mills into this section from the North and East, and the great expansion of textile manufacturing undertaken by both local and outside capitalists. A little later, the rayon industry began to center in the South, so that today there are twelve huge establishments making rayon from cotton linters and wood pulp, located in Virginia, West Virginia, Georgia, North Carolina and Tennessee. Then followed the location of big kraft paper mills in Alabama, North Carolina, Louisiana and later, in Virginia, Florida and Arkansas.

In recent years the aeronautical industry has made phenomenal progress in the South, along with development of mail, express and passenger airlines. Southern cities and towns have vied with one another in the building of

modern airports. The South has gained nationwide prominence in the establishment of a \$20,000,000 "West Point of the Air" at Randolph Field, Texas; the location of an \$8,000,000 home for the Third Attack Wing of the U. S. Army at Shreveport, La., and the location in this section of training bases for aviation schools of national organizations. Southern firms and individuals have been quick to adopt and develop the airplane as a new tool of business.

More recently big sums have been expended for ice and cold storage plants to handle poultry, produce, etc., as well as for the erection of cheese, powdered milk and condensed milk plants. The quick-freezing of fruits and vegetables was successfully launched in the South last year by the establishment of such plants in Georgia and Florida. Now the South is beginning to can the output of farms and groves, the outstanding development of 1930 in this connection being the establishment of plants for the canning and distribution of citrus fruit. In one Florida county alone last year \$1,200,000 was invested in new canning plants.

## *Established Plants Rounding Out Production Facilities*

**W**ITH the foregoing industries firmly rooted in the South, expansion and refinement of older plants has been the order of the day. With addition of

finishing plants, printing establishments, weaving mills and specialty mills to turn out cotton, wool, rayon and real-silk goods and combinations of these, further diversification of textile manufacturing was obtained. In rayon manufacture the newest processes have been introduced, and Southern plants have added units to turn out this synthetic material by all accepted methods developed to date. In the paper industry established mills have been modernized and extensively improved to provide for increased efficiency and a reduction in production costs. The manufacture of high grade papers has been successfully undertaken in several mills, and encouraging progress has been made toward the utilization of Southern pine in the manufacture of news print. In the aviation field, established Southern aircraft factories have succeeded in developing new types of craft that are being purchased by individuals, by passenger, mail and freight lines and by Government agencies. Airports built only a few years ago are being extensively improved to provide safer landing places for heavier and speedier craft. Large sums are being invested in lighted airways and emergency landing fields.

## *Army of Chemical Plants to Meet South's Demands for Products*

**W**ITH the location in the South of so many important rayon, textile and paper manufacturing plants, development of a diversified chemical industry is being fostered. These chemical plants are locating in all parts of the territory from Maryland to Texas, near sources of raw material, cheap fuel and abundant power. Such products as ammonia, sulphuric acid, methanol, alcohol, cellulose acetate, etc., are being manufactured.

Millions of dollars were expended last year by the steel industry in the erection of new units at Southern plants to permit of diversification of output. As part of a \$20,000,000 program the Gulf States Steel Co., Gadsden, completed this section's first universal plate mill and added units to enable it to turn out products not heretofore produced. The Tennessee Coal, Iron & Railroad Co. expended upwards of \$8,000,000 at its Fairfield plant in further rounding-out production facilities. The Bethlehem Steel Co. went forward with its improvement program at its Sparrows Point, Md., plant. Weirton Steel Co., Weirton, W. Va., expended \$3,500,-



000 for a rail and structural mill. The Electro-Metallurgical Co. started work on a \$3,000,000 steel plant at Boncar, W. Va., where its parent company is erecting a big steam-electric generating plant and undertaking a comprehensive hydro-electric development program. The American Rolling Mill Co. expended \$2,000,000 at its Ashland, Ky., plant.

A dependable supply of efficient labor, adequate transportation facilities, steadily increasing demand for products by Southern industries, and growing possibilities for exports to Central and South American countries through Gulf and Atlantic ports, are factors in the selection of Southern locations for new plants by the country's foremost industrial concerns. The list of important new projects in the South bears such well known names as Proctor & Gamble, DuPont, U. S. Steel, International Paper, Carbide & Carbon, Bethlehem Steel, Goodyear, Ford Motor, Western Electric, Viscose, etc.

*Extension Natural Gas Pipeline Distribution Systems Involves \$200,000,000*

THE INDUSTRIAL forward movement in the South seems to have gained so much momentum and to have assumed such a broad aspect that in any year when one or another particular industry marks time some other industry arises to take its place, or even surpass it in monetary expenditures. Last year

the building of underground transportation systems to carry natural gas, crude oil, gasoline, and other petroleum products, held the center of the stage. Careful estimates indicate that over \$200,000,000 was expended for such purposes. The program recently completed, underway and proposed is of such proportions as to mark it as one of the great industrial developments of all time. Qualified observers say that within the next few years natural gas will be available to every town and city of reasonable size in each of the states east of the Rocky Mountains. Already natural gas from southwestern fields is available in Atlanta, Ga., and Pensacola, Fla. A line will shortly be completed to carry 300,000,000 cubic feet of gas daily to Chicago and points enroute. Memphis is burning Louisiana gas, and the line is being extended east. From Kentucky fields lines are being built into Indiana. A line is projected from Kentucky to serve Detroit. Washington will soon have natural gas piped from Coatesville, Pa., through Maryland, and work is to begin shortly on a line from Pikeville, Ky., through West Virginia and Virginia to connect with this line at Rockville, Md. Extensions of lines from Southern fields are contemplated to serve Philadelphia, Wilmington and New York. The line to Washington from Kentucky may have laterals to serve Roanoke, Lynchburg and various Virginia communities.

Due to the perfection of processes for the liquefaction of natural gas, opportunity is afforded for the utilization of this fuel in individual residences and communities beyond the pipe lines. Distributing systems like those now used for artificial gas distribution may be economically installed in communities of from 300 to 500 homes, and gas in liquid form is transported to these communities by tank cars. Development in the manufactured gas industry goes forward. The two gaseous fuels—artificial and manufactured—are seen as twin giants, supplementing each other. By the perfection of methods for high pressure transmission of artificial gas the product is being made available from central manufacturing plants in the larger centers to surrounding territory up to a radius of 40 to 50 miles.

The extension of the elaborate network of natural gas pipe lines through the South and Southwest to serve distant industrial centers is making possible the utilization of this fuel under the boilers of public utility steam-electric generating plants. Extensions of main lines have been built to serve some power plants, while several privately owned lines from comparatively nearby gas fields have been built. The big volume of work undertaken by the power industry in the South during 1930 was comprehensively reviewed in the MANUFACTURERS RECORD of November 27.

## Outstanding Engineering and Industrial Projects, November-December, 1930

THE accompanying summarization of typical activities reported in the last two months of 1930 shows the diversity of the construction operations and gives emphasis to the fact that these developments are scattered throughout the South. The total investment involved in carrying to completion these representative undertakings exceeds \$224,000,000.

Location	Kind of Project	Estimated Cost	Status	Owners and Details
State of Alabama	Roads and bridges .....	\$ 4,660,000	Bids, Jan. 14	Projects in 24 counties.
Arkansas-Missouri	Hydro plants .....	43,000,000	First unit under way	White River Power Co.
Boynton, Fla.	Residential projects ....	1,000,000	Proposed	Col. R. A. McCormick, plans yacht basin, airfield, etc.
Jacksonville, Fla.	Bridge .....	4,000,000	Proposed	Duval County Commn., St. Johns River Crossing.
Okeechobee, Fla.	Flood control .....	9,000,000	Surveys under way	Authorized by Congress, local interests to pay \$2,000,000.
Tampa, Fla.	Super-phosphate plant ..	3,000,000	Under way	American Cyanamid Co., erecting bulkhead and fill at plant site.
Austell, Ga.	Thread plant .....	1,500,000	Site acquired	Clark Thread Co., Newark, N. J., to build mill and village.
Louisville, Ky.	Outfall sewer .....	1,870,000	Under way	First section of Southwestern outfall sewer.

Location	Kind of Project	Estimated Cost	Status	Owners and Details
New Orleans, La.	Airport .....	\$1,000,000	Proposed	City, Orleans Levee Board.
	Rail-highway bridge ....	21,000,000	Soon start work	New Orleans Public Belt R. R.
	Wharves .....	1,000,000	1931 projects	Bd. of Port Commrs.
	Sprinklers for wharves, sheds .....	1,300,000	Proposed	Bd. of Port Commrs., improve three wharves.
Shreveport, La.	Rail terminal .....	1,000,000	Proposed	Gulf, Mobile & Northern R. R. terminal, slips, warehouse, etc.
	Levee, seawall .....	1,700,000	Proposed	Orleans Levee Bd.
Louisiana	Army airfield .....	7,000,000	Site acquired	City donated 23,000-acre tract to War Dept.
	Rail line .....	2,000,000	Proposed	Missouri Pacific and L. & A. Rwy. Co., double track New Orleans to Baton Rouge
Baltimore, Md.	Water storage dam .....	3,500,000	Initial contracts let	City of Baltimore, Prettyboy dam.
	Gas, electric work .....	8,300,000	1931 budget	Cons. Gas, Electric Light & Power Co.
	Airport .....	2,500,000	Bonds voted	City to complete municipal airfield.
	Harbor improvements ..	10,000,000	Bonds voted	City, continue port development.
Cumberland, Md.	Water dam .....	500,000	Soon start work	City plans new dam.
	Gas pipeline .....	.....	Work under way	Columbia Gas & Electric Co., subsidiary building 465-mi. line, Coatesville, Pa., to Rockville, Md. Also build line Pikeville, Ky., through W. Va. and Va. to Washington.
Butler, Mo.	Gas system .....	1,000,000	Proposed	Western Service Corp. lay 75-mi. line and seven distributing systems.
Kansas City, Mo.	Grain elevator .....	1,000,000	Under construction	Missouri Pacific R. R.
	Water mains .....	1,000,000	Proposed	Chief Engineer, Water Dept., plans 8-mi. mains.
St. Louis, Mo.	Drainage project .....	914,000	Bids, Jan. 13	Section J of \$11,000,000 River des Peres drainage channel.
Springfield, Mo.	Street paving .....	2,000,000	Asks bids soon	Program for 1931.
	Power lines and plant ..	1,750,000	Under way	Empire Dist. Electric Co. power line from Ozark Dam, increasing generating capacity to 27,000 HP.
Oklahoma	Oil pipeline .....	500,000	Under way	Continental Oil Co. 81-mi. line.
Oklahoma City, Okla.	Hydro project .....	24,000,000	Soon start work	Grand Hydro-Electric Co., 4 dams.
	Residential development	25,000,000	Under way	G. A. Nichols, Inc., Nichols Hill project.
	Union station .....	2,500,000	Completed	Rock Island-Frisco project trackage, depot, etc.
Spartanburg, S. C.	Railroad, tunnel .....	750,000	Proposed	Carolina, Clinchfield & Ohio Rwy. Co. and others authorized to do work.
Tennessee	Power improvements ..	4,500,000	1931 program	Tennessee Electric Power Co.
	Power development ....	2,000,000	Seek permit	Mountain Power Co. plans seven reservoirs, six power houses, three auxiliary dams.
Texas	113-mi. line .....	5,000,000	Proposed	Gulf & West Texas Ry. Co.
	Rail line .....	500,000	Proposed	North Plains & Santa Fe Rwy. Co., 20-mi. line.
Brownwood, Texas	Irrigation dam .....	590,000	Contract let	Brownwood County Water Improvement Dist. No. 1.
Dallas, Texas	Power projects .....	8,000,000	Initial work	Dallas Power & Light Co., plans Mountain Creek.
Houston, Texas	Sewage disposal .....	1,500,000	Completing plans	Orleans Levee Board.
	Railway station .....	7,000,000	Initial work	City and Southern Pacific Rwy.
Tascosa, Texas	Railroad bridge .....	750,000	Finish May 1	Ft. Worth & Denver City Ry.
Newport News, Va.	Coal pier .....	2,210,000	Under way	Chesapeake & Ohio Rwy. Co.
Quantico, Va.	Dredging, filling .....	650,000	Contract let	Bureau of Yards and Docks, Navy Department.
Richmond, Va.	Sewers and paving ....	700,000	Ask bids soon	Program for 1931.
Harpers Ferry, W. Va.	Rail bridge .....	800,000		Baltimore & Ohio R. R.
Prince, W. Va.	Railroad tunnel .....	1,000,000	Under way	Enlarging C. & O. Rwy. Co. Stretcher's Neck Tunnel.

### Oil and Gas Deal

Tulsa, Okla.—The Stanolind Oil and Gas Company, newly organized subsidiary of the Standard Oil Company of Indiana, has begun operations with headquarters at Tulsa and district offices throughout the Midcontinent and Texas oil fields. It has taken over all properties, assets and liabilities of the Midwest Exploration Co. in Texas, and of the Dixie Oil Co. and the McMan Oil and Gas Co. in all states where they are

domiciled and operate. The Midwest company will withdraw from Texas and the Dixie and McMan companies will be liquidated and cease to exist. District offices heretofore maintained in the Southwest by the three companies, as well as the general office of the Dixie company at Tulsa, will be continued by the Stanolind Oil and Gas Co. whose officers include: Frank O. Prior, president; A. M. McCorkle, vice-president, secretary and treasurer; Henry G. Schneider and E. F. Bullard, directors.

### \$500,000 Pleasure Pier

Galveston, Tex.—Plans have been prepared by Andrew Fraser, local architect, for a \$500,000 pleasure pier to be erected here by John G. Nelson of Dallas, Tex., and associates. The pier will extend 700 feet into the Gulf of Mexico, with a 40-foot causeway approaching the pier pavilion and auditorium, the pavilion itself to extend 400 feet into the gulf. This structure will be 65 by 120 feet, while the auditorium will seat 1500.

# 56,000 Items Tell of South's Building and Industrial Growth

**I**NDUSTRIAL, building and general development activities throughout the sixteen Southern states in 1930 are represented by the publication of more than 56,000 items in the DAILY CONSTRUCTION BULLETIN and in the columns of the MANUFACTURERS RECORD. Although the total number for last year shows a decline from the preceding year, they exceed in value by more than \$140,000,000 the total for similar projects in 1929. Moreover, work went forward in 1930 on numerous outstanding projects on which work began in 1929.

The reports included 27,768 industrial

development notices; building items numbered 15,012. There were 3651 items concerning organization of new financial enterprises and the voting and sale of public improvement bonds. The reports included 8825 items on road and paving projects; bridge, culvert and viaduct items published numbered 3698.

## MONTHLY TOTALS OF ITEMS PUBLISHED IN 1930

January.....	5500	July.....	5400
February.....	4547	August.....	4264
March.....	4938	September.....	3996
April.....	5116	October.....	4485
May.....	6970	November.....	3345
June.....	4625	December.....	3254

Thus, a total of 12,523 notices, covering these two closely allied classes of work, were published.

Next in numerical importance are dwelling construction items, numbering 3641. In 1929 a total of 6513 such items were published. This shows clearly the falling off in residential construction. It does not, however, present a true picture of home-building in the South, because due to space limitations only those individual projects involving an expenditure of \$10,000 each and up, are included. Hundreds of residential and related projects were undertaken in all parts of the South costing from \$1500 to \$10,000 each, thus calling for expenditure in the aggregate of large sums for renovating and modernizing dwellings, erecting additions and building private garages.

School building construction is third in numerical importance, being represented by 3493 individual reports; gas and oil developments, 1565; public garages, filling stations and allied enterprises are represented by 1469 items; land development enterprises by 1266; waterworks projects by 1161; store buildings by 1152; sewer construction by 1087; hotels and apartment structures by 962; government and state buildings by 962; church buildings by 934; city and county building projects by 871 items, and miscellaneous enterprises, covering a wide variety of undertakings that cannot be listed under the other classifications, by 2600 items.

## Industrial Developments:

	1930 Totals			Jan. to Dec. Incl.
	Oct.	Nov.	Dec.	
Airplane Plants, Stations, etc.	45	41	38	563
Bridges, Culverts, Viaducts	304	261	227	3,698
Canning Plants	18	20	10	232
Clayworking Plants	6	9	4	62
Coal Mines and Coke Ovens	10	4	7	95
Concrete and Cement Plants	4	1	1	32
Cotton Compresses and Gins	13	4	6	166
Cottonseed Oil	4	1	0	27
Drainage, Dredging and Irrigation	27	38	27	363
Electric Light and Power	61	48	44	819
Fertilizer Plants	6	2	0	35
Flour, Feed and Meal Mills	3	8	7	62
Foundry and Machine Plants	13	9	11	219
Garages, Filling Stations	118	87	93	1,469
Gas and Oil Developments	142	70	89	1,565
Ice and Cold Storage	18	23	16	273
Iron and Steel Plants	7	4	3	77
Land Developments	112	81	76	1,266
Lumber Enterprises	18	21	15	325
Metal Working Plants	5	2	1	26
Mining	14	6	6	144
Miscellaneous Construction	66	55	60	788
Miscellaneous Enterprises	224	197	169	2,600
Motor Bus Lines and Terminals	36	26	24	326
Railway and Street Railways	28	23	24	371
Railway Shops and Terminals	9	3	3	84
Road and Street Construction	682	424	495	8,825
Sewer Construction	101	81	88	1,087
Telephone Systems	69	31	22	495
Textile Mills	30	19	17	339
Water Works	114	101	82	1,161
Woodworking Plants	11	9	6	174
	2,319	1,700	1,671	27,768

## Building

Association and Fraternal	17	14	16	262
Bank and Office	44	21	20	527
Churches	78	44	45	934
City and County	75	62	75	871
Dwellings	331	198	191	3,641
Government and State	85	84	105	962
Hospitals, Sanitariums, etc.	68	54	51	775
Hotels and Apartments	79	79	67	1,082
Miscellaneous	59	41	38	612
Railway Stations, Sheds, etc.	10	12	7	139
Schools	229	165	191	3,493
Stores	91	79	77	1,152
Theatres	20	12	6	245
Warehouses	29	16	16	317
	1,215	881	905	15,012

## Financial

Bond Issues Proposed	153	153	143	2,255
Bond Issues Sold	90	52	52	789
Building and Loan Associations	0	0	1	35
New Financial Corporations	22	19	12	572
	265	224	208	3,651

## Want Section

	534	418	350	7,943
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<b>Total</b>	4,333	3,232	3,134	54,374
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<b>Fire Damage</b>	152	113	120	1,666
	4,485	3,345	3,254	56,040

## Citrus Stores Planned

Directors of the Florida Citrus Exchange, Tampa, recently directed its joint committee to arrange for the establishment of a chain of citrus fruit and juice stores in the state and to co-operate with associations for their operation in those sections in which associations are located. The committee will also study the feasibility of the operation of stores by the Florida Citrus Juice Co., also of Tampa, in communities in which there are no Exchange associations. The stores would bear the name, Seald Sweet, the first grade brand of the Exchange. Several such stores, it is said, have been operated by Exchange associations with marked success.



# Southern Building Activity in 1930

**A** REVIEW of building activity in the sixteen Southern States last year indicates that structures completed and projected embrace every type of service. Practically every section of the South had a part in the 1930 program. Although new building was undertaken on a big scale, the section's needs are far from satisfied, judging from numerous new projects of a major nature announced during the closing months of 1930.

A recapitulation of representative major building projects scattered throughout the South, reported in the construction columns of the *MANUFACTURERS RECORD* during November and December, calls for a total investment of more than \$177,000,000, and this is only a part of the new work to be done. No undertaking involving less than \$500,000 is included. There is abundant evidence that the early months of 1931 will witness a continuation of building activities at high level. Moreover, it is to be expected that with the Government speeding up its building activities, and with states, counties, districts, cities and towns going forward with building projects for a wide variety of purposes, that a wholesome stimulation of private building will result.

However, private enterprises in the South did not wait for the Government to launch its building program; rather, they led the way. The 1930 list of completed and projected structures includes medical arts and professional buildings, specially designed and equipped to serve doctors, dentists and professional men; modern hotels and apartment houses with latest equipment and facilities; commodious bank and office buildings, elaborately finished and fitted with every device demanded by modern business enterprises; union bus terminals, designed and finished after the manner of the best type of union railway station; costly school, university and college buildings, fully equipped and embodying all that is newest and best in educational plant equipment; handsome church and Sunday school edifices. Business structures of all types, large new store buildings and association and fraternal buildings—these and more go to make up last year's well-rounded building program of the Southern States.

## *Seek to Stimulate Residential Construction*

**R**ESIDENTIAL construction showed a further decline from the high level set in 1929, when awards for individual projects involving an expenditure of \$10,000 each and up, aggregated \$64,352,000. Last year the value of similar projects dropped to \$36,000,000. Because of the serious decline in dwelling construction the past two years, not only in the South but throughout the country generally, Government officials, leaders in business, industry and finance are making every effort to devise means of putting home-building on a stable basis. Nationwide surveys indicate there is no oversupply of dwellings in which high-grade materials and first-class workmanship are such as to provide a reasonable degree of permanence and fairly low upkeep costs. The oversupply of dwellings is due in large part to shoddy construc-

tion and the erection of types of houses for which there is no demand. The movement to stimulate dwelling construction is of special significance to the South which is predominantly a home-owning section. The solution of the financing problem, so that funds for such construction will be available at fair rates, is held by observers to be the key to the situation. So this phase is being given major attention. In certain Southern towns and cities, building and loan and financing institutions have adopted a supervising plan to encourage the use of high-grade materials and workmanship, and rigid adherence to specifications and thereby insure better values for the home buyer and make dwelling loans better risks.

The figures presented in the accompanying summary covering residential work, do not give an accurate picture of this class of construction in the South,

for, due to space limitations, only individual projects involving \$10,000 each and up are reported. Big sums in the aggregate were expended last year for modernizing, repairing and adding to existing dwellings. Indications are that this year will witness operations of this character on an ambitious scale.

## *Varied Types of Structures*

**A**WARDS for apartment houses and hotels in 1930 had a total valuation of \$44,879,500, compared with \$63,844,500 representing the valuation for like structures in the preceding year. The 1929 total represents a decline of more than 25 per cent from the high figure set in 1928, when apartment and hotel awards amounted to \$99,109,000.

In 1930 bank and office buildings let to contract had a total valuation of \$28,778,500, compared with awards in 1929 for similar projects totalling \$44,950,500.

School building construction, which has figured so prominently in the South's building activities since 1921, increased last year, contracts let aggregating \$67,542,500, compared with \$53,334,500 representing school building awards in 1929.

## *Public Construction in Volume Projected for 1931*

**I**NDICATIVE of the speeding up of public building construction is the total of \$46,641,000 representing projects let to contract by city, county, state and Federal governments. This figure compares with \$13,243,000 for 1929 and with \$11,847,500 for 1928.

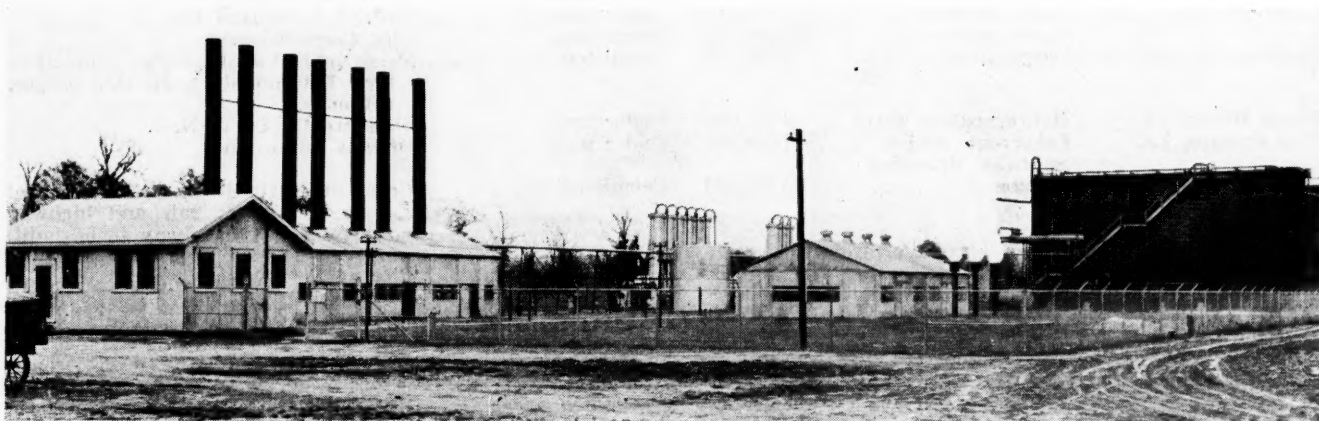
Washington's beautification and building program as now projected calls for expenditure of more than \$300,000,000 in a 10-year period. Possible projects include: Eleven major Government buildings, \$190,000,000; enlarging Senate Office building, new Supreme Court building and improving Capitol grounds, \$26,000,000; parks, highways and boulevards, \$39,250,000; Arlington Memorial Bridge, \$43,750,000; Civic Center for municipal buildings, \$36,000,000. One of the country's foremost building projects is the \$17,000,000 structure to house the Department of Commerce, being erected by the Consolidated Engineering Co., Baltimore, which also has general contract for the \$7,500,000 House of Representatives building. Contracts are to be let shortly for the \$6,300,000 Archives Building and the \$8,240,000 Supreme Court Building.

# Some of the Principal Building Contracts of Last Two Months

THE total investment represented by these structures now under construction or on which work will begin shortly is \$177,215,000. No attempt has been made to list all the new undertakings reported, but only to select representative jobs at scattered points throughout the South. No project is listed which cost less than \$500,000. The carry-over of work to be finished in the new year, it will be seen, is enormous.

Location	Kind of Building	Estimated Cost	Status	Owners and details
Birmingham, Ala.	Court house, jail .....	\$ 1,500,000	Bonds proposed	Complete interior and furnish \$3,250,000 courthouse.
Hot Springs, Ark.	Hotel .....	800,000	Projected	George R. Bartling, Inc., St. Louis, Architect.
Little Rock, Ark.	Hospital .....	600,000	Architect selected	Pulaski County Hospital Assn.
	Hospital .....	3,250,000	Soon let contract	First unit nervous diseases hospital.
	Federal bldg. ....	1,435,000	Proposed	Probably ask bids Fall 1931.
Washington, D. C.	Church .....	1,000,000	Foundation contract let	National Shrine of Immaculate Conception.
	Office bldg. ....	7,500,000	Work started	House of Representatives.
	School .....	1,500,000	Under way	Theodore Roosevelt High School.
	Medical school .....	840,000	Let contracts, Jan.	Army Medical Center.
	Archives Bldg. ....	6,900,000	Clearing site	Treasury Dept.
	Apartment-hotel .....	5,000,000	Under way	Kennedy-Warner, Inc., owners.
	Supreme Court Bldg. .	8,240,000	Start work soon	Building Commn. completing plans.
	Coast Guard Bldg. ....	3,000,000	Projected	Public Buildings Commn. approved.
	Central heating plant ...	4,500,000	Projected	Public Buildings Commn. approved.
	Botanical gardens .....	800,000	Plans under way	David Lynn, archt. of National Capitol.
	Office bldg., garage ....	1,000,000	Let contract, Jan.	Standard Oil Co. of N. J.
	Office bldg. ....	865,000	Proposed	Treasury Dept. for Public Health Service.
	Church .....	625,000	Under way	St. John's English Lutheran Church.
Miami, Fla.	Federal bldg. ....	1,640,000	Plans under way	Razing structures on site.
Jacksonville, Fla.	Parcel post bldg. ....	600,000	Plans under way	Treasury Dept., Washington.
St. Petersburg, Fla.	Clubhouse, etc. ....	750,000	Projected	Tocobayga Holding Co. acquired Snell Isle properties.
Savannah, Ga.	Post office bldg. ....	900,000	Under way	Enlarging U. S. post office.
Louisville, Ky.	Schools (5) .....	1,250,000	Plans under way	Five schools and additions.
	Office bldg. ....	1,250,000	Site acquired	Louisville Gas & Electric Co.
	Post office .....	2,000,000	Foundation contract let	Treasury Dept., Washington.
Lexington, Ky.	Federal bldg. ....	760,000	Proposed	Treasury Dept., Washington.
	Narcotic farm .....	3,000,000	Proposed	Treasury Dept., Washington.
New Orleans, La.	Hospital, school .....	2,500,000	Plans under way	Dillard Memorial University.
	Union station, etc. ....	6,300,000	Projected	Southern Rwy., L. & N., New Orleans Terminal Co., City.
	Hospital .....	500,000	Proposed	Charity Hospital, Miltenberger Home.
	Markets .....	1,000,000	Bonds voted	City to rebuild markets.
Baton Rouge, La.	State Capitol .....	5,000,000	Contract let, Dec.	Erect 30-story structure.
	Post office .....	500,000	Site selected	Treasury Dept.
Baltimore, Md.	Library .....	2,000,000	Contract let, Dec.	Enoch Pratt Free Library.
	School .....	800,000	Architect selected	Southeastern Jr. High School.
	Produce terminal .....	750,000	Soon let contract	Pennsylvania R. R. Co.
	Home for aged .....	500,000	Under way	Methodist Episcopal Church.
	Masonic home .....	600,000	Plans under way	Grand Lodge of Masons, owners.
	Post office .....	2,950,000	Under way	Treasury Dept., Washington.
	Schools .....	1,500,000	Proposed	Schools for handicapped pupils.
	Apartment .....	1,000,000	Under way	Thomas Mullan, owner.
	School .....	500,000	Contract let, Nov.	City, Northeast Jr. High School.
Anne Arundel Co., Md.	Schools .....	1,000,000	Bonds voted	Bd. of Education, Annapolis.
Jackson, Miss.	Hospital .....	700,000	Let contracts, Jan.	Unit of \$5,000,000 state hospital.
Jefferson City, Mo.	Prison .....	750,000	Under way	
St. Joseph, Mo.	Hotel .....	500,000	Architect selected	Lincoln Arms Hotel Co.
St. Louis, Mo.	Merchandise mart .....	5,000,000	Work started	Terminal R. R. Assn.
	Federal bldg. ....	3,500,000	Purchased site	Treasury Dept., Washington.
	Apartments .....	600,000	Site acquired	Sam Hamburg, Jr., plans 10 apts.
	Hospital .....	1,250,000	Started work	St. Louis University.
	Nurses' home .....	600,000	Soon receive bids	City Hospital unit.
	Hospital group .....	20,000,000	Part under way	Barnes Hospital and Washington University School of Medicine

Location	Kind of Building	Estimated Cost	Status	Owners and details
Kansas City, Mo.	Art gallery .....	\$3,000,000	Work under way	City, Nelson Art Gallery and Atkins Museum of Fine Arts.
	Office bldg. ....	2,500,000	Contract let	Kansas City Power & Light Co., 30-story.
Oklahoma City, Okla.	Post office .....	4,500,000	Under way	Treasury Dept., Washington.
	Office bldg. ....	500,000	Proposed	W. S. Key remodel Gladish Bldg.
	Cathedral .....	10,000,000	Build first unit 1931	Protestant Episcopal Bishop of Okla.
	Bank, office bldg. ....	3,000,000	Work under way	First National Bank & Trust Co., 32-story.
El Reno, Okla. Tulsa, Okla.	Office bldg. ....	2,500,000	Under way	Skirvin Tower, 26-story.
	Post office .....	1,100,000	Soon let contract	Treasury Dept., Washington.
	Y. W. C. A. bldg. ....	500,000	Contracts let	Y. W. C. A., nine-story.
	Prison .....	3,000,000	Architect not named	Dept. of Justice 15 buildings.
Enid, Okla. Nashville, Tenn. San Antonio, Tex.	Office bldg. ....	500,000	Contract let	Four-stories additional, Philcade Bldg.
	Fair bldgs. ....	500,000	Bonds voted	Tulsa State Fair Assn.
	Theatre, stores .....	780,000	Proposed	G. E. Blumenauer, archt.
	School .....	500,000	Proposed	Senior High School, East Nashville.
Fort Worth, Tex.	Church .....	1,000,000	Soon start work	National Shrine of St. Anthony.
	Schools (3) .....	1,750,000	Bonds voted	San Antonio Independent School Dist.
	Theatre .....	1,500,000	Proposed	Fox Film Corp.
	City hall .....	750,000	Plan bond issue	Also considering jail and central police station.
El Paso, Tex. Galveston, Tex. Dallas, Tex.	Post office .....	1,215,000	Architect named	Treasury Dept., Washington.
	Station, terminals .....	1,000,000	Plans under way	Gulf, Colorado & Santa Fe Rwy.
	Masonic temple .....	1,000,000	Foundation contract let	Masonic Temple Builders Assn.
	Sunday school .....	600,000	Proposed	First Baptist Church.
Waco, Tex. Austin, Tex. Houston, Tex. Tyler, Tex.	Hospital .....	550,000	Bond election, Jan.	City and county project.
	Schools .....	1,600,000	Proposed	City's 1931 school bldg. program.
	Office bldg. ....	900,000	Contracts let	Dallas Gas Co., 13-story.
	Hospital .....	600,000	Proposed	Texas Children's Hospital raising funds.
Texarkana, Tex.-Ark. Norfolk, Va. Roanoke, Va. Newport News, Va. Richmond, Va. Williamsburg, Va.	Hospital .....	1,200,000	Soon let contract	U. S. Veterans' Bureau.
	Library .....	900,000	Erect this year	University of Texas, 11-story.
	Hospital .....	1,500,000	Soon start plans	City of Houston and Harris County.
	Hotel .....	600,000	Contemplated	Southern National Hotel Corp., Galveston.
	Federal bldg. ....	790,000	Funds appropriated	Treasury Dept., Washington.
	Navy barracks .....	3,000,000	Under way	Hampton Roads, Naval operating base.
	Theatre .....	500,000	Proposed	Theatre Holding Corp., owners.
	Mariners' museum .....	1,500,000	Under way	Archie M. Huntington, etc.
	Medical Arts bldg. ....	575,000	Contemplated	Medical Science Corp., promoting.
	Restoration bldgs. ....	1,000,000	Funds appropriated	Williamsburg Holding Corp. undertake additional work.



Louisiana Gas &amp; Fuel Co., Gasoline Extraction Plant at Alto, La.

### Enlarging Railroad Shops

Memphis, Tenn.—Concentrating its program of car construction, the Illinois Central System is dismantling various repair shops along its lines and is installing much of the machinery from these shops, as well as new equipment,

in the Memphis shops. This action will necessitate an increase in the shop force here from 600 to 1250. Car building operations will be centered at three shops, it is said, the Memphis shops building box, flat and house cars, while steel car construction will be handled at Centuria, Ill., and at refrigerator car shops at McComb, Miss.

Atlanta, Ga.—Preliminary plans being prepared by A. Ten Eyck Brown, architect, and A. Barilli, associate architect, both of Atlanta, call for a 5-story and basement building for the new post office and Federal project, estimated to cost \$1,700,000, including \$200,000 for furnishings and equipment.



# Large Engineering and Industrial Projects

THE following tabulation comprises a few major projects selected at random from reports published in the first 10 months of 1930. A preceding table gives particulars for November and December. Even a cursory examination reveals the scope and character of these operations, which present many opportunities for the sale of machinery and supplies and for utilization of the efforts of engineers, architects and contractors in an ever broadening field.

Location	Kind of Project	Estimated Expenditure	Status	Details, Name of Owner, etc.
Jasper, Ark.	Zinc, lead mining .....	\$ 2,000,000	Proposed	Ozark Reduction Co.
Texarkana, Ark.-Tex.	Union railway station ..	1,700,000	Completed	
Birmingham, Ala.	Airport .....	1,000,000	Under way	City, A. J. Hawkins, Engr.
	Steel plant .....	8,000,000	1930 budget	Tennessee Coal, Iron & R. R. Co.
Gadsden, Ala.	Steel plant .....	10,000,000*	Units completed	Gulf States Steel Co. pushed work on \$20,000,000 diversification program.
				Dwight Manufacturing Co.
				Bureau of Public Roads, George Washington Memorial Highway to Mt. Vernon.
Washington, D. C.	Textile mill .....	750,000	New machinery	
	Highway .....	15,000,000	Under way	Arlington Memorial.
				R. L. Dowling and associates.
Jacksonville, Fla.	Highway bridge .....	15,000,000	Nearing completion	International Paper Co. subsidiary.
Panama City, Fla.	Floral gardens .....	1,250,000	Proposed	Armstrong-Newport Co.
Pensacola, Fla.	Paper plant .....	10,000,000	Under way	City, soft water system.
St. Petersburg, Fla.	Insulating board .....	1,000,000	Completed	U. S. Phosphoric Products Corp.
Tampa, Fla.	Water works .....	3,250,000	Completed	Tampa Western Union Co.
	Phosphoric products ..	5,000,000	Completed	Chamber of Commerce promoting.
	Telegraph building ....	1,000,000	Completed	City and county projects.
	Drydock .....	1,600,000	Proposed	Crisp County Hydro-Electric Comsn. built county-owned plant.
Atlanta, Ga.	Sewer system .....	13,000,000	Survey completed	Certain-teed Products Corp.
Cordele, Ga.	Hydro plant .....	1,250,000	Completed	Pan-American Petroleum & Transport Co.
				American Rolling Mill Co.
Savannah, Ga.	Roofing plant .....	600,000	Completed	Ballard & Ballard Co.
	Asphalt refinery .....	1,250,000	Completed	City Commission.
				Mississippi Valley Barge Line Co., erected terminals, purchased barges, towboats.
Ashland, Ky.	Steel plant .....	2,000,000	1930 budget	Standard Oil Co. of N. J.
Louisville, Ky.	Grain elevator .....	750,000	Under way	Orleans Levee Dist.
	Sewer system .....	10,000,000	Under way	
Louisiana-Missouri	Barge line .....	3,500,000	Completed	Corps of Engineers completed Bonnet Carre Spillway; rail and highway bridges across floodway to be built.
				City of New Orleans.
Baton Rouge, La.	Hydrogenation plant ..	8,000,000*	Under way	City deeded 22,000-acre site for Third Attack Wing, U. S. Army.
New Orleans, La.	Lakefront project ....	40,000,000	Under way	Procter & Gamble Co., Cincinnati.
	Spillway, diversion channel .....	10,000,000	Completed	Gas & Electric Co. improved properties acquired from Terminal Corp.
				Gillet Realty Corp.
				Rustless Iron Corp. of America.
				Baltimore & Ohio R. R.
				Pennsylvania R. R.
				Western Electric Co., built first units cable and insulated wire plant.
				Commercial Pigments Corp.
				Chicago Mill & Lumber Co.
				Pittsburgh Plate Glass Co.
				Corn Products Refining Co.
				Missouri Pacific Rwy. Co.
				St. Louis Star
				International Shoe Co.
				Linda Baking Co.
				Terminal Railroad Assn.
				St. Louis Airport Commission.
				Municipally owned project.
				Oklahoma Gas & Electric Co.
Shreveport, La.	Sewer, drainage, water-works .....	15,000,000	Under way	
	Airfield .....	8,000,000	Proposed	
Baltimore, Md.	Soap plant .....	4,000,000	Completed	
	Cold storage, etc. ....	2,000,000	Completed	
	Parking garage .....	2,000,000	Completed	
	Steel plant .....	5,000,000*	Under way	
	Produce terminal .....	1,200,000	Completed	
	Tunnel, electrification, grade crossings .....	22,000,000	Under way	
	Cable plant .....	25,000,000	Part completed	
Greenville, Miss.	Paint plant .....	500,000	Completed	
Crystal City, Mo.	Insulating board plant	1,000,000	Completed	
Kansas City, Mo.	Glass plant .....	6,000,000	Completed	
	Refinery .....	3,000,000*	Completed	
	Bus terminal, etc. ....	5,400,000	Completed	
St. Louis, Mo.	Grain elevator .....	700,000	Completed	
	Newspaper plant .....	1,500,000	Under way	
	Warehouse .....	1,500,000	Completed	
	Ice cream cone plant ...	500,000	Completed	
	Express building .....	800,000	Completed	
	Airport .....	2,000,000	Under way	
Wilson, N. C.	Power plant .....	500,000	Completed	
Belle Isle, Okla.	Steam power plant .....	1,000,000	Completed	

\*Figures approximated.

Location	Kind of Project	Estimated Expenditure	Status
Henryetta, Okla.	Glass plant	\$2,000,000	Completed
Enid, Okla.	Grain elevator	500,000	Completed
Oklahoma City, Okla.	Newspaper plant	1,500,000	Completed
Tulsa, Okla.	Cement plant	2,500,000	Proposed
South Carolina	Hydro project	22,000,000	Completed
Tennessee-North Car.	Hydro plants, aluminum works	25,000,000*	Under way
Kingsport, Tenn.	Chemical plant	2,000,000	Completed
Dallas, Tex.	Levees, changing river channel, etc.	25,000,000	Under way
El Paso, Texas	Copper refinery	4,000,000	Completed
Eagle Pass, Texas	Power, irrigation	7,000,000	Under way
Fort Worth, Texas	Irrigation	6,500,000	Under way
Galveston, Texas	Market	500,000	Under way
Houston, Texas	Grain elevator	2,000,000	Completed
	Grain elevator	1,500,000	Completed
	Acid plant, etc.	500,000	Completed
Midland, Texas	Potash plant	2,500,000	Proposed
Port Aransas, Texas	Port project	2,000,000	Under way
Port Arthur, Texas	Seawall	2,000,000	Under way
Randolph Field, Tex.	Flying school	20,000,000	Under way
San Antonio, Texas	Sewage disposal plant	900,000	Completed
	Warehouse	500,000	Completed
Toyah, Texas	Water pipeline	1,000,000	Completed
Wichita Falls, Texas	Grain elevator	500,000	Completed
Amherst and Nelson Counties, Virginia	Mining	2,000,000	Under way
Allegheny, Va.	Railroad tunnel	1,100,000	Under way
Bonny Blue, Va.	Coal mine tipples	1,000,000	Completed
Fredericksburg, Va.	Transparent paper	1,000,000	Completed
Gloucester Point, Va.	Toll bridge	2,000,000	Proposed
Hopewell, Va.	Ammonia plant	18,000,000*	Second unit
Newport News, Va.	Coal pier	3,500,000	Under way
Norfolk, Va.	Pier extension	550,000	Completed
Newport News, Va.	Boat plant	2,000,000	Completed
Richmond, Va.	Tobacco plant	3,500,000	Completed
	Cellophane plant	4,000,000	Completed
Belle, W. Va.	Ammonia plant	3,500,000	Under way
Charleston, W. Va.	Chemical plants	10,000,000*	Under way
Hinton, W. Va.	Railroad tunnel	2,200,000	Under way
Parkersburg, W. Va.	Rayon unit	5,000,000	Completed
Weirton, W. Va.	Rail and structural mill	3,500,000	Completed

\*Figures approximated.

## Details, Name of Owner, etc.

Pittsburgh Plate Glass Co.  
Oklahoma Wheat Growers' Assn.  
Oklahoma Publishing Co. built first unit.

Missouri Portland Cement Co.  
Saluda Dam, Barstow interests.

Aluminum Co. of America, hydro plants and expanding aluminum works  
Tennessee-Eastman Corp.

City and county reclaiming big industrial acreage; new roads, bridges.

Nichols Copper Co.  
Maverick County Water Control & Improvement Dist. No. 1.  
Tarrant County Water Control & Improvement Dist. No. 1.  
Texas Ice & Refrigerating Co.  
Galveston Wharf Co.  
Port Commission.  
Texas Chemical Co.  
Texas Potash Corp.  
Aransas Harbor Terminal Ry. Co., etc.  
First unit let to contract 1930.  
U. S. Army, "West Point of the Air."  
City project.  
Scobey Fireproof Storage Co.  
Texas & Pacific Ry. Co. supply line.  
General Mills, Inc.

Southern Mineral Products Corp.  
Chesapeake & Ohio Ry. Co.  
Blue Diamond Coal Co.  
Sylvania Industrial Corp.  
Yorktown Bridge Co.  
Atmospheric Nitrogen Co. completed \$22,000,000 first unit in 1929.  
Chesapeake & Ohio Ry. Co.  
Norfolk & Western Ry. Co.  
Horace E. Dodge Boat & Plane Corp.  
American Tobacco Co.  
DuPont Cellophane Co.  
DuPont Ammonia Co. extensions.  
Carbide & Carbon Chemicals Co. big development program.  
Chesapeake & Ohio Ry. Co.  
Viscose Co.  
Weirton Steel Co.

## Pipe Lines Purchased

Jackson, Miss.—The United Pipe Line Corp., Houston, Tex., a subsidiary of the United Gas Corp., has completed the purchase from the Southern Natural Gas Corp., Birmingham, Ala., of natural gas pipe lines extending from a point north of Jackson to Mobile, Ala., including branch lines to Bogalusa, La.; Canton, Laurel, Hattiesburg, Gulfport and Biloxi, Miss. The deal also includes the pipe line extension from Mobile to Pensacola, Fla. Gas will be supplied these lines from the Jackson field in which the United Gas Corp. recently acquired substantial holdings, although the company has entered into a long-term contract whereby gas from the Monroe, Richland and East Carroll fields in Louisiana will be transported by the Southern Natural Gas Corp. to the lines, if and when it is necessary to supplement the supply. A contract also provides an additional source of supply to the Southern Natural Gas Corp.



General View of Tulsa, Okla., Airport



## Workers Returning to Southern Plants

**R** EPORTS from various sections of the South indicate that manufacturing and industrial activities are being speeded up and that thousands of workers are resuming employment.

At Chattanooga, it is said approximately 600 workmen who have been laid off from two weeks to six months will be at work by January 15. The Southern Railway took back 47 men at its Citico shops, Chattanooga, and the United States Pipe and Foundry Co., whose two plants have been closed since December 23, put back 500 men. The two plants of the latter company will run from three to five days weekly, maintaining a schedule approximately as it was before the holiday shutdown. About 50 men will resume work at the plant of the Mascot Stove Co., which has been shut down since it was damaged by fire in November.

J. Thomas Giles, resident manager of the United States Pipe and Foundry plants, is reported as saying that his plant is looking for more business now, as a good many cities are coming into the market and that municipalities are major buyers of the company's products. According to O. T. Tindall, vice-president of the Mascot Stove Co., a new mounting room is being completed, after which manufacturing will begin. The present increase in the force of the Southern Railway at the Citico shops brings the total force to about 450, leaving 125 workers released in July still off the force.

The Norfolk & Western Railway Co. recently put 2800 men on at Roanoke, Va.; the Missouri Pacific 1200 at Sedalia, Mo.; the Southern Pacific 850 at El Paso, Tex., while the Missouri Pacific shops at North Little Rock, Ark., have been reopened with a full force of 1000 men, and the St. Louis-San Francisco has re-employed 2000. Rail mills of the Tennessee Coal, Iron & Railway Company are expected to employ at once about 1500 men and the Sanitary Manufacturing Co. will add 2000 men to its plants at Louisville, Baltimore and Pittsburgh, to handle rush orders for 800 carloads of enamel work. An assembling plant at Richmond, Va., of the Chevrolet Motor Co. has resumed operations with 600 men and a plant at Kansas City, Mo., of the Corn Products Refining Co. employed 400 additional men to double the daily output. The purchase of the Gilbert Davis coal mine and tipple by interests of Morgantown, W. Va., will assure work for 150 men, it is said, and

the new \$3,000,000 plant at Wheeling, W. Va., of the Weirton Steel Co. has opened with 150 men, while the Bethlehem Steel Co. has added 400 men at Sparrows Point, Md.

Increased operations were announced by the Crown Manufacturing Co. at its textile mill at Dalton, Ga., and by the Cluett, Peabody Co., with shirt mills running at full capacity at Atlanta and Bremen, Ga. Textile mills in Alabama are recalling forces and expect to be in full operation within a few weeks and cottonseed oil mills in Oklahoma are showing big employment increases. Additions are planned for the plant at Henryetta, Okla., of the Pittsburgh Plate Glass Co. We are informed by A. C. Needles, president of the Norfolk & Western Railway Company, that all shop forces returned to work January 5 and maintenance of way forces on January 12.

### To Reopen Textile Mill

Asheville, N. C.—The Martell mill properties here which have been closed since last July, have been leased to the Clyde Mills, Inc., Newton, N. C., and will soon be put in operation with a force of more than 150 operatives. Formerly manufacturing quilts, Osnaburgs and yarns, the mill will now produce special fabrics. The enterprise occupies a site of 125 acres and includes a main building, bleachery, office building, warehouse and 100 operatives' dwellings.

### New Knoxville Firms Employ 2000 in 1930

Knoxville, Tenn.—A list of 80 new firms starting business in Knoxville during 1930 and employing approximately 2000 people, has been prepared by the Knoxville Chamber of Commerce. Practically every line of industry is represented by the new companies, of which one of the latest is the Chevrolet Motor Co., which is opening a commercial body assembling plant to employ 100 men initially. In the number of people employed, the largest firm listed is the Knox Dry Goods Co., which opened a department store in the uptown section about three months ago, employing 250 people. Bernard's Tobacco Warehouse and Western Avenue Tobacco Warehouse have given employment to approximately 300 men.

### \$15,000,000 Railroad Orders

Orders for 200,000 tons of steel rail to cost about \$8,500,000 have been placed by the Pennsylvania Railroad, according to President W. W. Atterbury, while additional expenditures for accessories will bring the total cost, exclusive of ties, to about \$15,000,000. Rail contracts were awarded as follows: United States Steel Corp., New York, 100,000 tons, divided between the Carnegie Steel Co., 60,000 tons, and the Illinois Steel Co., 40,000 tons; Bethlehem Steel Co., Bethlehem, Pa., 88,000 tons, and the Inland Steel Co., Chicago, 12,000 tons. Approximately 15 per cent of the entire order is for immediate delivery and the remainder to be available as needed during the year. The company's 1931 rail-laying program will insure the maintenance of track in the best condition, it is said, with rail renewals over the entire system and heavier rail replacing present rail on main line tracks. Experiments with certain modifications in design of the present rail are being made with a view to still greater safety and speed.

### Speed Up Public Building

Washington, D. C.—In testimony before the Senate Committee on Appropriations, Jas. A. Wetmore, Acting Supervising Architect of the Treasury Department, stated that plans and specifications for 20 buildings each month can be prepared in his office for the next three months. It was pointed out that the principal delay in starting public construction is due to the inability of the Treasury Department to procure sites, and speed was urged for legislation now pending which would give the Treasury authority to take over property by making a deposit in court and leave the adjustment of price and certification of title to take the regular course. A provision such as this, it is said, would enable the Treasury Department to expend the maximum of \$138,000,000, thereby creating jobs for a large number of workmen. About 100 buildings are now under contract and this number could be doubled in the next six months, it is declared, if the Department of Justice were authorized to accept certificates of title in voluntary transactions, rather than being compelled to trace the title back to the original grant.

Washington, D. C.—Proposals will be opened February 6 in the office of Public Buildings and Public Parks, Navy Building, Washington, to erect a \$600,000 5-story office building here for the American Red Cross. Trowbridge & Livingston are the architects and Weiskopf & Pickworth, engineers, both of New York.



# AERIAL SURVEYS

## Speed Natural Gas Pipeline Construction

By  
CARROLL E. WILLIAMS

AERIAL surveys of right-of-way have played an important part in speeding construction of several of the great natural gas pipeline systems recently completed and now under construction from gas fields in the South and Southwest to distant industrial centers. It is difficult to conceive of any other method of obtaining so much detailed information pertaining to the right-of-way in so short a period of time and at such a low cost, which averages about \$30 per linear mile, or \$10 per square mile of territory. What is more, the aerial survey insures a quantity of accurate detail. While aerial maps are amply accurate for all practical purposes of pipeline location, it is doubtful if they can compete in accuracy with a ground survey, for it is quite impossible to scale any kind of a map as closely as it can be charted on the ground.

Efficient organizations, improved meth-

*Manifold benefits result from utilization of aerial photography in routing long distance transmission lines from Southern fields—Fleet planes, elaborate camera equipment, trained crews and complete laboratories play major roles in success of this method*

ods and equipment in the aerial survey industry make possible a service of the kind now rendered.

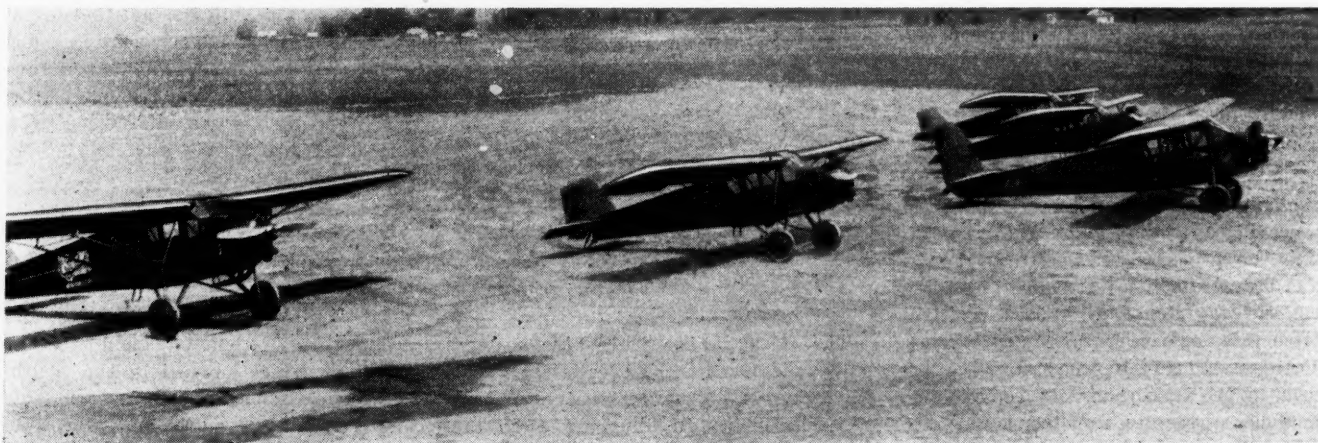
Engineers in varied fields of endeavor are using aerial surveys extensively, resulting in great savings in time, energy and money. During the past year aerial surveys have been undertaken in the South and Southwest to a greater extent than in any other section of the country. Probably in the future, construction will not be undertaken on any long pipeline, any major power transmission line, railroad extension, hydro-electric or flood control improvement, waterway or im-

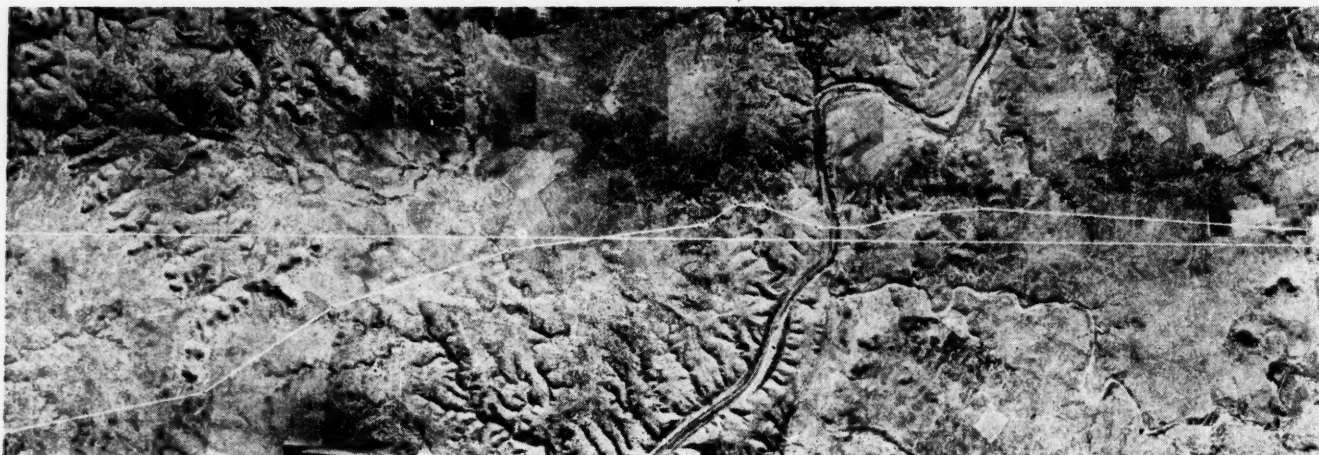
portant highway project, before it has been critically studied from the air.

On a 100-mile pipeline recently constructed in Kansas and Missouri the airplane reconnaissance was made in less than two hours, the entire route photographed in four hours of flying, and the completely assembled map delivered within ten days; on the twelfth day buying of rights-of-way was begun. Moreover, not a single stake had to be driven prior to purchase of the right-of-way.

At a height of 2¼ miles above ground the pilot and photographer, both of whom necessarily are highly skilled, op-

**This Photograph Shows a Lineup of Five Curtiss Robins Ready to Take Off on Photographic Projects. The Planes Operate at a Height of About Two Miles**





Section of Country Through Which the Shell Pipeline from West Texas to Houston Passes, Showing the Air Line and Also the Selected Location as Built from a Study of the Aerial Photographs

erate in a fast plane fitted for long distance flying. Exposures are made at intervals of 26 seconds, and each picture overlaps the preceding one by 50 to 60 per cent. When more than one strip of pictures is necessary the side overlap is 30 to 40 per cent, so that any given point will appear on at least two photographs. Individual photographs are carefully matched, and mounted on cloth in sections 25 feet long, covering an area of about 50 miles and comprising what is called the "mosaic" map. In this field the old front-parlor stereoscope plays a leading role. The stereoscope now employed may not look like the one grandmother had, but the principle is the same. The overlapping pictures are placed under the stereoscope in such a way that a common point on each will coincide, and by means of a system of mirrors the stereoscope transforms the interval between the observer's eyes from a few inches to several thousand feet. Then one sees a hill or valley from two different angles and the perception of relief or third dimension of the photographs results. Buildings, trees, valleys and hills stand out. By comparison with the known horizontal scale, the vertical distance can be accurately estimated. Between two objective points a string is stretched, and by shifting it to avoid buildings and objectionable topographical features the best and shortest route is quickly determined.

Two photostatic negatives are prepared of the original map, each being about two feet long and overlapping the preceding one by an inch. On one negative the property lines, owners' names and scaled distances are added, and the right-of-way department uses positives from this negative in making purchases. Positives from the other negative are used by the staking parties, construction engineers, executives on inspection trips and contractors in the field.

Objectionable topographical features can be avoided, the range of the engineer's eyes is transformed from a few thousand feet to many miles; in fact, at a glance he can see the entire length of the pipe line. Not the least of the benefits from an aerial survey is the saving in pipeline mileage as compared with former methods of routing. No definite figures are available, but it is conservatively estimated that the saving is at least a half mile in each 30 miles of line, so that the entire cost of the aerial survey from the standpoint of length of line is saved many times over. The avoidance of topographical obstacles has been mentioned. The final staking of the line is made possible in half the normal time. A contractor bidding on a project is able to eliminate an enormous amount of guess work when he submits a bid. He can accurately estimate his transportation and stringing costs by having available the location of all roads, highways, railroads, waterways, etc., thus making it possible to schedule shipments of materials and equipment to take advantage of the shortest possible hauls. It has been estimated that a reduction of less than one per cent in a contractor's bid will more than pay for the entire cost of aerial survey. Also, it is not necessary to approach owners of properties until the entire survey has been completed. It is then possible to display photographs of the proposed right-of-way, and this has been found to create a certain psychological effect in favor of the purchaser, and advantageous deals are more quickly closed it has been determined.

#### *Survey for 1500-Mile Line*

The Great Lakes Pipe Line system, now under construction, calls for about 1500 miles of high pressure lines of four to eight inches in diameter, from the Oklahoma fields to serve such important

centers as Kansas City, Mo., Omaha, Neb., Des Moines, Iowa; Minneapolis and St. Paul, Minn., Chicago, Ill., and Milwaukee, Wis. The surveys have been handled by the Edgar Tobin Aerial Surveys of San Antonio, Texas, and the Curtiss-Wright Flying Service of New York City. The methods used by these two companies in preparation of the data are very similar, making possible the adoption of a standard system in the engineering department of the Great Lakes Pipe Line Co. in securing information from maps furnished by the two companies.

In undertaking this aerial survey certain control points were selected, such as towns, rivers, railroad junctions, etc., near the route of the proposed line. This tentative line was projected on a small scale map, and a strip about three miles wide was flown, using the suggested line as a center or guide line. Where a strip more than three miles wide was desired, additional plats were made to take in the area required. This was especially true where a larger map was necessary to study conditions for the route through and around such places as large cities or congested districts of one kind or another.

Results would indicate that there is a saving of at least 90 per cent in time over previously accepted methods of surveying by ground crews. An idea of the great speed with which this project was carried forward is indicated in the details presented herewith.

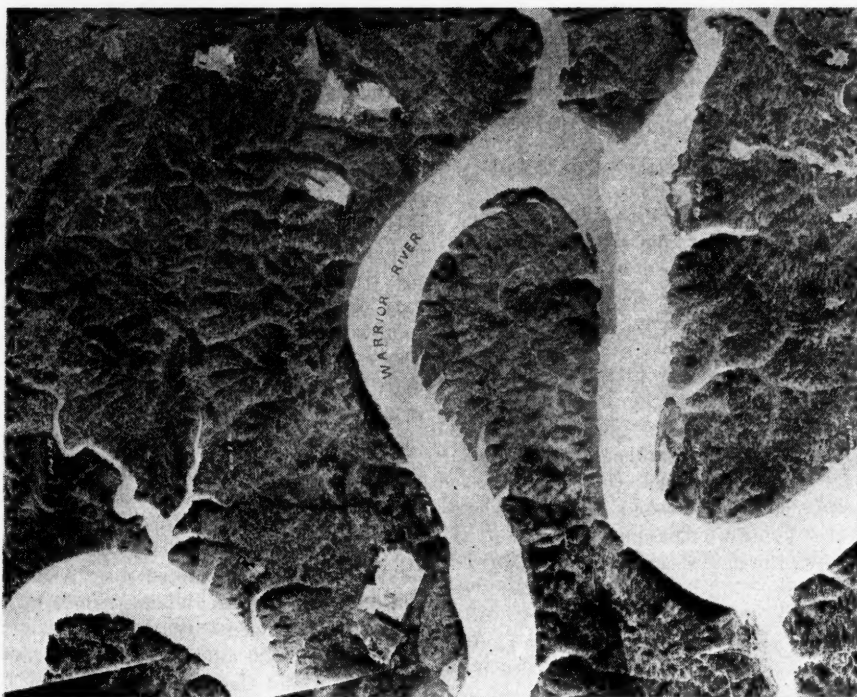
#### *Tremendous Saving in Time Over Former Methods*

The survey was made during the "drought" season, under ideal weather conditions which prevail in the Southwest during much of the summer. This condition, however, does not prevail in some of the Northern states, especially



during the late fall and spring months. Thus engineers are learning to plan their preliminary survey work to take advantage of the good weather periods.

On July 17 last the Curtiss-Wright Flying Service of New York received a telegram from officials of the Great Lakes Pipe Line Company to attend a conference at their offices in Ponca City, Okla., relative to aerial surveys of a right-of-way. On the evening of the same day W. L. Hamilton, manager of the Aerial Survey Division, left New York by the T. A. T., and within 24 hours arrived at the Great Lakes office, where F. E. Richardson, chief engineer in charge of constructing the new pipe line, outlined plans for the survey. First, Mr. Richardson made a reconnaissance flight over the tentative route in order to determine the straightest and shortest distance between two points (this being the basic idea of a pipe line survey); also, to ascertain the site of a town best suited for the line to pass through, where the best river crossings lay, and the territory through which the line should run to avoid treacherous swamps and extremely hilly and heavily wooded districts. On July 19 he left the Ponca City airport in a Travelair plane—incidentally, owned and operated by the Great Lakes company—and in a period of four days flew over 3000 miles. On completion of this flight Mr. Richardson was in a position to supply the firms engaged with proper charts and data indicating the territory to be covered by the aerial photographic survey. On July 25 the Curtiss-Wright organization received charts with orders to proceed with the mapping of 325 linear miles of right-



View of Country West of Birmingham, Ala., Taken in Connection With the Building of the Southern Natural Gas Corporation's Line

of-way, representing in all 1000 square miles of territory. It required three days to prepare necessary flight maps and post the two aerial crews on location, and an additional two days for suitable photographic weather. Flight lines were plotted on existing charts; two flight lines were necessary to cover the 3-mile wide territory. The photographic crew then proceeded to photograph the area.

The airplanes operated were Curtiss-

Robins, specially built for aerial photography purposes. Such a plane is capable, says the company, of maintaining a forward cruising speed of 90 miles an hour for 7 hours without refueling, and reaching an altitude of 12,000 feet in 38 minutes. The plane was flown at an elevation of 12,400 feet; 34 hours of flying were consumed; 823 exposures were made, and the entire line was photographed in five days.

It is said that a distance of only 10 miles had to be reflighted, due entirely to clouds having gathered over that particular section, and it is said the work was carried on so effectively that the double-strip flights over the entire route were made without going off the course at any point.

Since speed was the principal requirement of the contract, the film was shipped to New York by air, where it was immediately developed. A set of prints was produced at the controlled scale of one inch to 1000 feet. Mosaic maps were also made. These comprised prints of each negative made to a controlled scale and assembled into one composite map. Each afternoon Curtiss-Wright engineers rolled up maps covering 90 square miles of territory for shipment to the Great Lakes Pipe Line Company. All shipments were made via T. A. T., making it possible to deliver in but one working day; this means from the time each section of the map was completed until the Great Lakes company received it. In other words, it is now possible for a plant and technical

**Proper Study and Interpretation Quickly Reveals Just Where Right-Of-Way Should Be Purchased Around This Town and Across the River**





staff in New York City to complete and deliver finished maps to the Southwest in a single business day.

#### *Careful Co-ordination of Efforts Facilitates Delivery of Maps*

The Great Lakes Pipe Line Company had field engineers distributed along the line for the purpose of selecting and establishing 16 miles of line daily, with the assistance of aerial survey. Hence, a schedule of 30 miles per day kept well ahead of the field parties. Within 26 days from the date the order was given the job was completed, and in all 1000 miles were flown, 823 exposures made, 1643 prints produced, and 200 square feet of mosaic were delivered. The necessary flying was completed in a total of 5 days; the actual mosaic work required 10 days; the balance of the time was consumed in organizing the crew, waiting for proper weather, or waiting for exposed film to reach the company's plant in New York City.

#### *4000 Square Miles Surveyed*

In connection with mapping a section of right-of-way in the Great Lakes system, W. H. Wilson of the Edgar Tobin Aerial Surveys, made an aerial reconnaissance with Mr. Richardson, picking out such control points as would affect construction of the line. At the larger centers, Kansas City, Des Moines, St. Paul, Minneapolis, Chicago and at various river crossings where a more detailed study was necessary for reasons

of construction, or a marketing study was necessary, extensive areas were photographed in addition to the 3-mile strips previously made. The entire strip from Barnsdall, Okla., to St. Paul, Minn.; from Ponca City, Okla., to Barnsdall; from Okmulgee, Okla., to Barnsdall, together with several larger mosaics at various points along the route, was completed in approximately one month from the time work commenced. The company found it possible under favorable conditions to cover from 100 to 200 linear miles daily by this method.

As an example of the speed with which the work was carried on, the pilot flew the mosaic covering Minneapolis and St. Paul, comprising approximately 200 square miles, on a certain Friday afternoon and shipped the film to the Tobin laboratory at San Antonio, Texas; 56 hours later the completed map was in the hands of the Great Lakes company's engineers at Ponca City, Okla. This involved some 1500 miles of transportation of the film and the finished map.

The Edgar Tobin Aerial Surveys surveyed the main line from Barnsdall, Okla., to St. Paul, Minn., and the two branch lines from Barnsdall to Ponca City and Barnsdall to Okmulgee. Slightly less than 1000 linear miles of map were photographed to cover this line, and these maps covered approximately 4000 square miles. The work was done by one ship in 30 days time. The Curtiss-Wright Flying Service flew the line from Des Moines to Chicago, a distance of 325 miles, covering 1000 square miles of territory.

#### **Chemical Industries Exhibit**

Special fundamental operations utilized in the chemical industries will be shown at the Exposition of Chemical Industries, May 4 to 9, Grand Central Palace, New York. In the demonstrations, disintegration, crushing, grinding, grading, mechanical separation, including filtration, classification, settling, thickening, evaporation, distillation, drying, weighing, measuring, mechanical handling of materials, conveying and the demonstration of materials of construction will be included. The chemical industries are constantly seeking materials for permanence to resist corrosion and destruction by the materials used in reactions conducted in the industries, and the products displayed will include ceramic materials, glassware, metals, alloys, plastics, wood, fibres, fabrics, and a long list of materials developed for many special purposes.

Special sections will be devoted to the showing of raw materials from the Southern States. A section for labora-

tory supplies and equipment and another for materials handling will be provided. A section also will demonstrate numerous types of containers.

The management looks forward to keen interest on the part of manufacturers and industrial men in the exposition.

#### **Florida Grapefruit Canning**

Four million boxes of grapefruit will be canned in Florida by the close of the 1930-31 season, according to estimates by citrus interests in the state. One million boxes had been canned and shipped before Christmas, and the canning of 3,000,000 more boxes is in sight.

Over 50 canning plants are reported to be in operation in Florida, involving investments of millions of dollars and giving employment to 10,000 men and women. A contract for 1,000,000 gallons of fruit juice has been effected by the Florida Citrus Exchange and the National Juice Company.

#### **\$4,290,000 RAILROAD BEGUN**

##### **Fort Worth and Denver Northern Building 114-Mile Carrier**

Childress, Tex.—Grading work has been started on the new railroad being built from Childress into the oil and gas fields at Pampa by the Fort Worth & Denver Northern Railway, a subsidiary of the Chicago, Burlington & Quincy Railroad Company. The project will cover a route of 114 miles and will involve an estimated expenditure of \$4,290,000. Steel rail of 90-pound weight will be laid, with a grade of six-tenths of one per cent southbound and one per cent northbound. The road will be ballasted for its entire length with native gravel and all ties and bridge timbers will be treated. Bridges will be built across Red River and Buck Creek in Childress County, Salt Fork of Red River in Collingsworth County, Mulberry Creek in Wheeler County and across McClellan Creek in Gray County. Oran Spears of Alvord, Tex., is the grade contractor.

#### **Gas Products Association Meeting**

Sound business expansion for 1931 will be discussed at the mid-winter meeting of the Gas Products Association, to be held at the Sherman Hotel, Chicago, January 27-28. Possibilities for increasing sales of oxygen, acetylene, hydrogen and gas welding and cutting apparatus and supplies during the year, has been announced as the text.

Actual demonstrations of correct sales presentations of these products to the customer will be made a feature in a movement to stimulate more careful study of the requirements of the customer and intelligent presentation of gas welding and cutting processes to the buyers. Special promotion methods also will be discussed.

Ellsworth L. Mills, The Bastian-Blessing Co., Chicago, is president of the association; A. J. Fausek, Modern Engineering Company, St. Louis, is first vice-president, and Parker B. Francis, Kansas City Oxygen Company, is a director.

#### **\$833,000 Barracks Bids**

Norfolk, Va.—Low bid to erect 4 barracks buildings (item 1) at the Hampton Roads Naval Training Station, near Norfolk, has been submitted to the Bureau of Yards and Docks, Navy Department, by Worsham Bros., Knoxville, Tenn., at \$369,333. The same firm also presented low bid at \$464,390 for 5 barracks buildings (item 2).

# Iron Ore Output Declined in 1930

## Reduction in South Not as Great as Rest of Country

THE iron ore mined in the United States in 1930, exclusive of ore that contained 5 per cent or more of manganese in the natural state, is estimated by the United States Bureau of Mines, at 58,359,000 gross tons, a decrease of 20 per cent as compared with that mined in 1929. The ore shipped from the mines in 1930 is estimated at 55,094,000 gross tons, valued at \$145,888,000, a decrease of 27 per cent in quantity and of 26 per cent in total value as compared with the figures for 1929. The average value of the ore per gross ton at the mines in 1930 is estimated at \$2.65; in 1929 it was \$2.61. The stocks of iron ore at the mines, mainly in Michigan and Minnesota, apparently increased from 7,067,206 gross tons in 1929 to 10,430,000 tons in 1930, or 48 per cent.

### Lake Superior District

About 84 per cent of the iron ore shipped in 1930 came from the Lake Superior district, in which approximately 49,378,000 gross tons was mined and 46,411,000 tons was shipped, decreases of 21 and 29 per cent, respectively, as compared with the quantities mined and shipped in 1929. The ore shipped in 1930 was valued at the mines at \$126,026,000, a decrease of 28 per cent. These totals include the ore from mines in

southern Wisconsin and ore shipped by rail as well as by water from all mines, but exclude manganiferous ores amounting to approximately 801,500 gross tons in 1930 and 1,058,953 tons in 1929 that contained 5 per cent or more of manganese in the natural state. The former ore is chiefly hematite. The stocks of iron ore in this district apparently increased from 6,108,499 gross tons in 1929 to 9,175,000 tons in 1930, or 50 per cent. The average value of the ore at the mines in the Lake Superior district in 1930 was \$2.72 a ton; in 1929 it was \$2.68.

### Southeastern States

The Southeastern States, in which the Birmingham district is the largest iron-ore producing area, mined approximately 5,937,000 gross tons of iron ore in 1930, a decrease of 13 per cent as compared with 1929. The shipments of iron ore from mines in these States in 1930 amounted to 5,851,000 gross tons, valued at \$11,349,000, decreases of 16 and 17 per cent, respectively, in quantity and value as compared with 1929. The ore is mainly hematite; brown ore and magnetite come next in order. The average value of the ore produced in these States in 1930 per gross ton was \$1.94; in 1929 it was \$1.96. The stocks of iron ore at the mines in this group of States, mainly in the Birmingham district, increased

from 827,486 gross tons in 1929 to 914,000 gross tons in 1930.

### Northeastern States

The Northeastern States, which include the Adirondack district, New York, and the Cornwall district, Pennsylvania, in 1930 mined 2,245,000 gross tons of iron ore, an increase of 2 per cent. The iron ore shipped from mines in these States amounted to 2,033,000 tons, valued at \$7,345,000, decreases of 12 and 2 per cent, respectively, in quantity and value as compared with 1929. The stocks of iron ore in this group of States increased from 119,056 gross tons in 1929 to 328,000 tons in 1930. The average value of the ore in these States in 1930 per gross ton was \$3.61; in 1929 it was \$3.24. Most of this ore is magnetite.

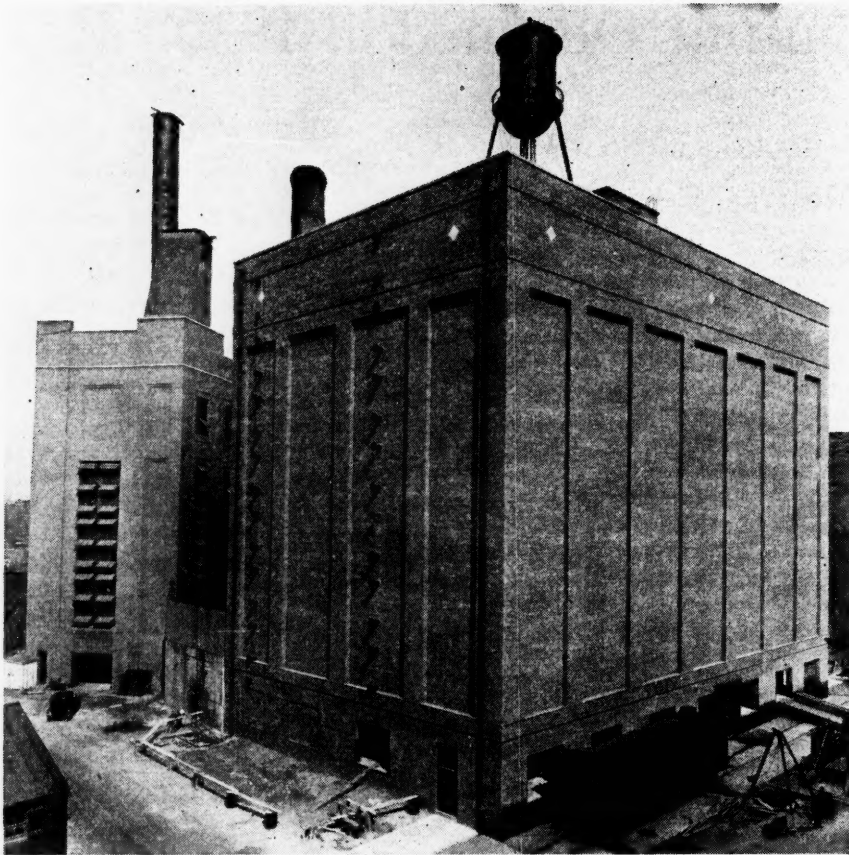
### Imports and Exports

The imports of iron ore reported for the eleven months ended November 30, 1930, amounted to 2,599,204 gross tons, valued at \$7,676,638, or \$2.95 a ton. The imports for the year 1929 were 3,139,334 gross tons, valued at \$8,145,354, or \$2.59 a ton. The reported exports of iron ore for the eleven months ended November 30, 1930, amounted to 752,082 gross tons, valued at \$2,733,423, or \$3.63 a ton, as compared with exports for the entire year 1929 of 1,304,417 tons, valued at \$4,774,842, or \$3.66 a ton.

ESTIMATES OF IRON ORE MINED AND SHIPPED IN THE UNITED STATES IN 1930 AND ACTUAL OUTPUT IN 1929

District	Ore mined (gross tons)		Ore shipped			
	1929	1930	1929		1930	
			Gross tons	Value	Gross tons	Value
<b>Lake Superior:</b>						
Michigan .....	15,456,397	13,668,000	16,838,568	\$47,597,976	11,262,000	\$32,248,000
Minnesota .....	45,760,858	34,385,000	46,470,243	121,776,312	34,000,000	90,598,000
Wisconsin .....	1,608,571	1,325,000	1,789,721	4,848,978	1,149,000	3,180,000
<b>Total .....</b>	<b>62,825,826</b>	<b>49,378,000</b>	<b>65,098,532</b>	<b>174,223,266</b>	<b>46,411,000</b>	<b>126,026,000</b>
<b>Southeastern States:</b>						
Alabama .....	6,453,075	5,710,000	6,637,299	12,575,113	5,607,000	10,586,000
Georgia .....	59,316	53,000	59,316	175,145	53,000	149,000
Missouri .....	168,934	127,000	171,456	661,055	127,000	482,000
North Carolina .....	30,675	.....	30,575	106,411	.....	.....
Tennessee .....	102,171	28,000	101,796	234,827	28,000	75,000
Virginia .....	.....	19,000	232	631	36,000	57,000
<b>Total .....</b>	<b>6,814,171</b>	<b>5,937,000</b>	<b>7,000,674</b>	<b>13,753,182</b>	<b>5,851,000</b>	<b>11,349,000</b>
<b>Northeastern States:</b>						
New Jersey .....	281,327	390,000	285,115	1,157,848	387,000	1,686,000
New York .....	822,261	890,000	875,564	3,941,985	752,000	3,647,000
Pennsylvania .....	1,092,013	965,000	1,151,130	2,382,839	894,000	2,012,000
<b>Total .....</b>	<b>2,195,601</b>	<b>2,245,000</b>	<b>2,311,809</b>	<b>7,482,672</b>	<b>2,033,000</b>	<b>7,345,000</b>
<b>Western States:</b>						
<b>Total .....</b>	<b>1,192,122</b>	<b>799,000</b>	<b>1,191,719</b>	<b>1,689,520</b>	<b>799,000</b>	<b>1,168,000</b>
<b>Grand Total .....</b>	<b>73,027,720</b>	<b>58,359,000</b>	<b>75,602,734</b>	<b>\$197,148,640</b>	<b>55,094,000</b>	<b>\$145,888,000</b>





Completed Unit of Terminal Cold Storage Warehouse in Baltimore

THE Terminal Freezing & Heating Co. of Baltimore was purchased in August, 1928, by the Consolidated Gas Electric Light & Power Co., and the company proceeded to rehabilitate the acquired properties. A major improvement in the program, and recently completed, is the first unit of a big cold storage warehouse on south Eutaw street, Baltimore. This unit, an 8-story brick and concrete building, covers a ground area of about 10,000 square feet and has a capacity of 793,000 cubic feet of floor space.

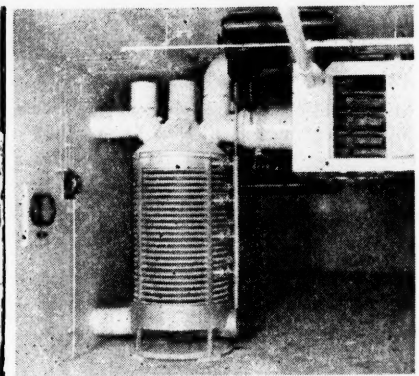
First floor of the new plant is primarily for handling merchandise direct from trucks or railroad cars to elevators, which serve the remaining floors. These elevators, two in number, are of special design, totally enclosed in an insulated shaft. Special air conditioning appliances keep the air in the shaft cool and dry; in addition the elevator cars are so designed that the opening at each floor is completely sealed to prevent loss of cold air from the refrigerated rooms. Each car has a capacity of two fully loaded hand trucks.

Arrangement of the second, third and fourth floors provides for "coolers" in which temperatures of 30 degrees to 45 degrees Fahrenheit can be maintained. Temperatures of the sixth, seventh and eighth floors range from 10 degrees be-

low zero to 15 degrees above. Insulation throughout the building is of cork board laid in hot asphalt and finished on the interior with white enamel. Installed in the cold storage rooms are special refrigerator type doors with wooden frame, cork lining and metal covering. These serve the dual purpose of insulating and fireproofing.

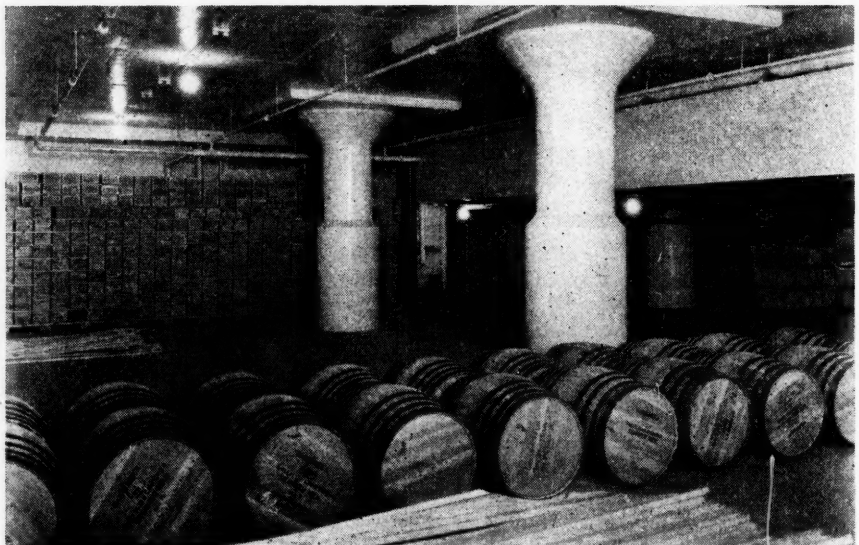
A siding immediately adjacent to one

## *Cold Storage* for a Baltimore Utility



Moore Ventilating Appliance

side of the building permits the unloading of three railroad cars at a time, the level of the first floor being three feet above the street to facilitate discharge from these cars and trucks. In the unloading operation, merchandise is placed



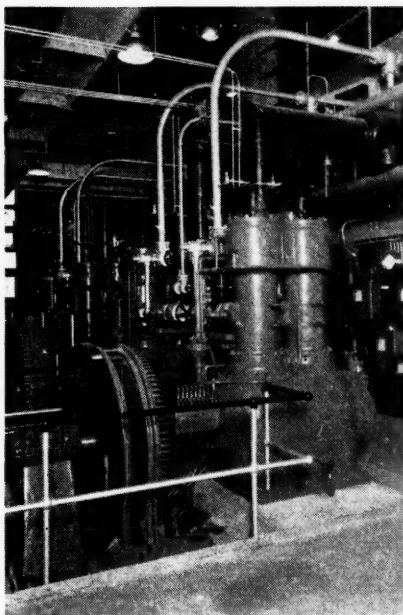
A Room on the Fifth Floor of the Warehouse



on four-wheel trucks, taken by this means to elevators and delivered to various parts of the building. To insure that all merchandise be placed immediately in cold storage, a refrigerated receiving or holding room is provided on the first floor.

The new refrigerating plant is of similar architectural design and construction. An electrical substation is located nearby, and adjacent to this substation is space for the machine shop and tool room. The basement, and a large machinery room extending the width of the building and 27½ feet high, occupy the remainder of the building. Ammonia compressors are arranged along the west side of this machinery room, which has a gallery for the control equipment. Pumps, condensers and other equipment are installed along the east side. The two large fans in the basement ventilate the plant and protect the operators from ammonia gas; a forced draft cooling tower, located on the roof, removes heat from the circulating water. Electric drives are used throughout.

Erection of the entire project was by the Consolidated Gas Electric Light and Power Company's construction department, with T. R. Wolfe in charge of construction and George S. Harris in charge of equipment installation. The contractors included: Stahl & Sprol, Baltimore, laying brick furnished by the Hydraulic Press Brick Co., St. Louis; McClintic-



Compressor Room

Marshall Co., Pittsburgh, reinforcing steel; William F. Zeller Co., Inc., Baltimore, Johns-Manville roofing; John R. Livezey, Baltimore, cork insulation; Victor Products Co., Hagerstown, Md., refrigerator doors; and Atlantic Elevator Co., Baltimore, elevators. The compressors were furnished by the York Ice Machinery Co., Baltimore and York, Pa., and the air conditioning and humidifying equipment by Charles A. Moore, Minneapolis, Minn.

## Honor As a Business Factor

By Bart Lelper, Pilot Life Insurance Company, Greensboro, N. C.

Is it possible to operate a large, modern business establishment on the honor basis, as far as the office employees are concerned? The Pilot Life Insurance Company, has been successfully carrying out an honor system plan for years.

No time clocks are found in the three spacious buildings that comprise the home office at Sedgefield-Greensboro. Never in the model cafeteria is heard the sound of a cash register bell. In fact there is no cashier at all. The patrons receive a ready-priced menu on which they note the items selected, and this properly signed, is filed and their bills are presented at the end of the month. Food prices, in so far as practicable, are fixed at actual cost of the food, without even charge for any overhead expense.

In line with this consideration for the staff is the use in all outer windows of a special glass that admits the health giv-

ing rays of the sun. Artificial ventilation is maintained, winter and summer, assuring an abundant supply of clean, pure air. Automatic heat control units are installed throughout the buildings, so that employees may adjust temperatures to suit conditions.

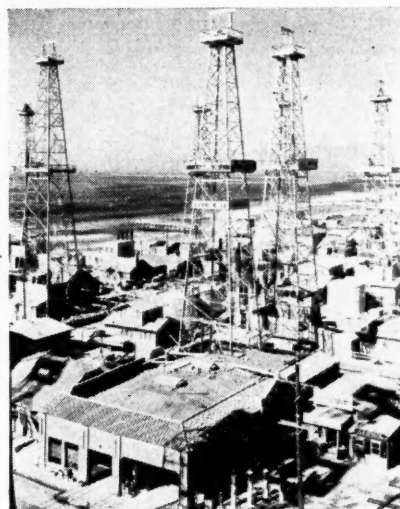
As a result of a recent questionnaire, a booklet was placed in the hands of every employee, outlining definite methods for creating good will. This serves as a working code, to which additions are made from time to time.

In addition to the department handling ordinary life insurance, which now has reached more than \$103,000,000 in force, there is an accident and health department, an industrial insurance department, and the McAlister group of fire companies, all sharing jointly the big new home office plant in the suburbs. Company operated buses help to solve any transportation problem for employees.

## Garage Sprouts an Oil Derrick

The oil derrick emerging from the roof of the Walker Arms garage in Venice, Cal., is not an optical illusion. The photograph was taken in the new Venice oil field where this winter resort city has been changed almost overnight to a boom oil field town. The Knox, Powell, Stockton Co., Inc., wanted to put down a well at this spot and the fact that a garage already occupied the site was not allowed to stand in the way of the company's plans.

The erection of the Ideco 122-foot derrick complete by the International Derrick & Equipment Company of Columbus, Ohio, was performed without dis-



The Business of the Garage Continues Uninterruptedly

turbing the business of the garage or the filling station operated on the corner. Forty-two 22-foot piles were driven through an opening in the garage roof to afford the concrete foundation a sound binding. About thirty 25-foot railroad rails were driven in to give additional strength. All this was done to carry the heavy rotary drilling equipment which is to be used on the job. The concrete was poured inside the building.

## \$500,000 Thread Mill

Austell, Ga.—Plans are being prepared by J. E. Sirrine & Co., Greenville, S. C., for a thread mill to be erected here by the Clark Thread Co., Newark, N. J. The first unit will consist of a 3-story main building, warehouses and 60 cottages for operatives, to cost about \$500,000. Construction will be of concrete and steel, with brick walls, tar and gravel roof, steel sash and doors, cement and wood floors. Plans will be ready by January 15.

# Pipe Welding

By A. W. MOULDER,  
Chief Engineer,  
Heating and Power Division,  
Grinnell Company, Inc., Providence, R. I.

ANY discussion of the economic phases of welding which includes a consideration of the disadvantages as well as the great benefits, must culminate in a suggestion that industry consider welding from the standpoint of its inherent advantages and not try to use it solely as a tool to cheapen work. To consider the welding of piping merely from the viewpoint of first cost is a superlative mistake.

Probably first in importance in the development of pipe welding is the welded header, which embraces piping work for almost every service, pressure and temperature, with a multiplicity of branch connections in a limited area. Obviously the more connections or pipe joints which may be substituted for fittings in a specified length of piping, the more welding is favored. The welded pipe header may be regarded as an institution, largely because of elimination of such a proportionately great number of joints, even at somewhat increased costs over fittings.

For pipelines conveying oil, gas, air, steam and so on for long distances, especially for overhead work or in trenches or tunnels, the advantages of permanently tight joints are obvious. There are often possibilities for utilizing somewhat lighter weight materials, and



Welding Small Pipes to a Larger One

insulation difficulties are eliminated. In some cases, first cost with welded joints is actually lower; in others it is higher, but in either case welding for this class of work has won a position of very great preference.

Advantages also are evident for large exhaust steam piping, circulating water or condenser piping, large piping around gas plants, and in similar uses. The difficulties of making other types of satisfactory joints on this large piping are obviated, and the weight of large flanged fittings, large cast iron flanged pipe and other weights are saved. In such cases, a saving in first cost can be effected by welding.

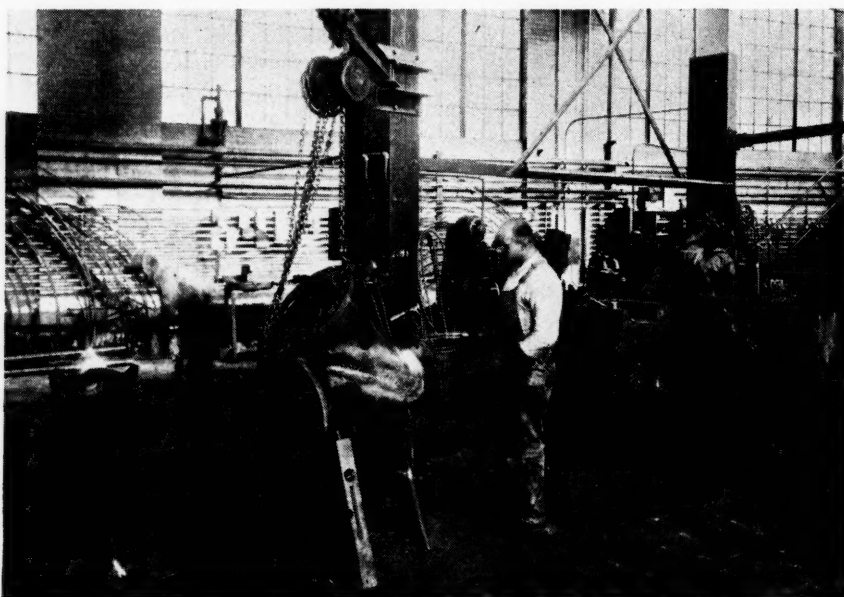
In high temperature and high pressure piping may be found great opportunities for saving in first cost through welding, as the steel fittings and types of flanged

joints required for this class of piping are very expensive. Welded joints may be substituted usually with considerable economy in first cost.

In small sizes and low pressure piping we come to that great mass of piping which represents the ordinary run of piping work in sizes fitting the ordinary tools and methods used by the average piping contractor, such as heating piping, water piping, gas and all sorts of industrial piping. Under this heading, I would emphasize again that welded piping has gained its present favor through proper development in fields where the training and supervision of welders has been under control of large organizations and responsible management. A single failure or leak can produce a black eye for the reputation of pipe welding as a whole, and this must be precluded by good work.

Welding may well be described as an art, and it is an art in which the operator develops a technique beyond the mere learning of methods. Nor is pipe welding to be confused with shop welding of tanks and other standardized articles where production becomes a possibility. The employer of pipe welders must think of quality first, quality last and quality all the time. "Production," or low first cost, of welding must be dismissed from his consideration of the subject.

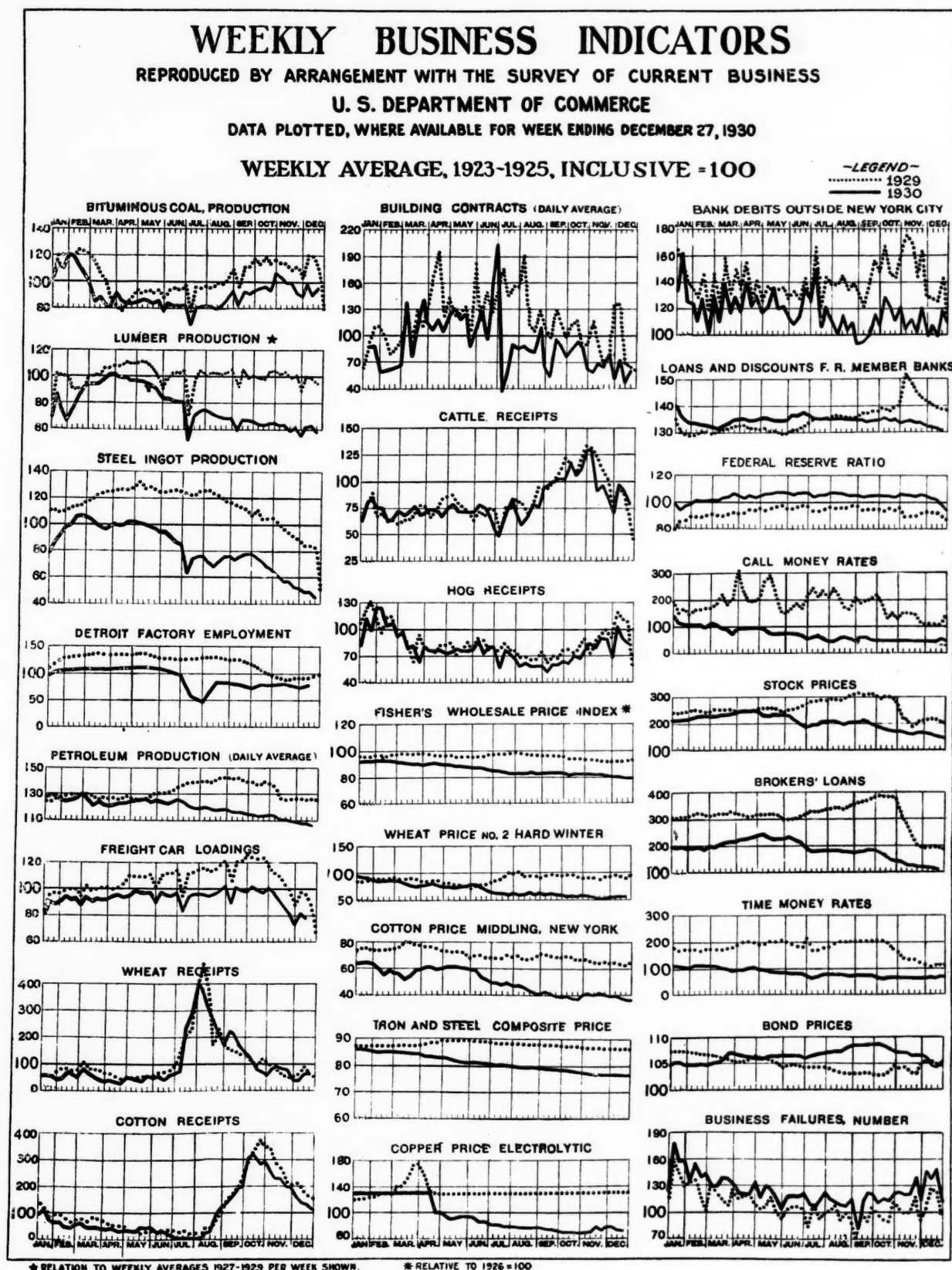
Good welding cannot, in my experience, compete in first cost with our present accepted practices for the average class of low pressure work. It is the over-all cost on given jobs which gives the true answer. Speaking by and large, I would say that for a rough rule of thumb 25 to 40 cents per lineal inch of weld fillet fairly well covers the actual cost of welding, this being for the welding materials and welder only, and without allowance for handling and installation of the materials.



Illustrating the Ease With Which Pipes May Be Joined at an Angle

# Business Trend of 1930

*THE accompanying graph issued January 10 by the Bureau of Foreign and Domestic Commerce covers the latest statistical survey of the principal business indicators of the country.*





# Operation of the Segregation Tax in Virginia

By ABRAM P. STAPLES, Roanoke

WHEN Henry Flood Byrd became Governor of Virginia, in February, 1926, he was aware of the need for a complete revision of the state's system of taxation through his service in the State Senate. Under the system then in vogue both the state and the localities—that is, the counties, cities and towns—were levying taxes to a large extent upon the same subjects. Thus, the state levied a tax of 25 cents on each \$100 of value of real estate and tangible personal property, while the localities levied their taxes on the same property at a rate fixed by the local taxing authorities. The values of these properties for taxation were in all cases assessed by local assessors who were residents of the county or city in which the property was located. Many local assessors followed a practice of assessing these properties which the State also taxed, at a small value, in some cases as low as 10 per cent of actual worth, while the local tax levying authorities imposed a high rate for local needs. The obvious purpose of this was, of course, to enable the locality to raise the revenue necessary for local government purposes, and at the same time escape with as small a part of the state tax burden as possible.

In some localities, particularly the cities, where the costs of local government were comparatively high, the local assessors were compelled to assess property at a relatively high proportion of actual value, in order to raise the necessary local revenue under the maximum statutory tax rate and in order also to meet the requirements of the state Constitution as to the limitations on bond issues. The result, of course, was a marked inequality in the distribution of the state tax burden among the respective localities. In some, where the assessment ratio was about 10 per cent of actual value, the net revenue to the state on its 25-cent rate was actually only about three cents on \$100 of true value, while in others, with an assessment ratio of about 75 per cent of actual value, the property owner paid to the

state a tax of about 20 cents per \$100 of real value, or over six times as much. This inequality existed, in varying degrees, throughout the entire state. Governor Byrd recommended to the General Assembly the "segregation system" and this was adopted.

Under this plan, the various subjects of taxation are divided between the state on one hand and the localities, counties, cities and towns, on the other. Real estate and tangible personal property are the principal subjects segregated to the localities and no levy thereon for state purposes is permitted. Conversely, levies on intangibles, railroad franchises and earnings, insurance companies, incomes and some other subjects are segregated to the state free from local levies. Values for tax purposes are assessed by the local authorities on subjects assigned to the localities, while, with the principal exception of individual incomes and intangibles, the assessments for state purposes are made by the state departments.

This change has brought about a marked improvement in the uniformity of assessments and the equalization of the state tax burden. The rate of taxation on intangibles such as bonds, notes, etc., was materially reduced, while the tax formerly levied on shares of corporations chartered in other states was completely removed. C. H. Morrisett, as head of the department of taxation, has helped to promote the success of the segregation tax system.

But the success of segregation cannot be attributed solely to the system itself. There were too many state governmental departments and too much diffusion of responsibility. So Governor Byrd recommended and secured the passage of legislation to reduce the number of administrative agencies from 85 to 12 departments, clearly defining their respective duties and responsibilities. All state funds, those derived from taxation as well as from the operation of educational and other state institutions, are now received and disbursed by the state treasurer. An entirely new accounting system is in operation, under Comptroller E. R. Combs, and the exact status of the state's finances can be ascertained at any time from daily statements.

Without any increases in tax rates, but with decreases in some, the end of the first two years of operation under the new system and the reorganized government converted a deficit of \$1,300,000 in the state treasury into a surplus of about \$2,500,000.

One of the best features of the segregation system is its flexibility. While the state constitution has been amended to prohibit state levies on real estate and tangible personal property, thus assuring permanency of the system, other subjects of taxation may be shifted from the state to the localities, or vice versa, as changes in economic conditions may require. Fluctuations in values may render it advisable to make slight changes from time to time, in order to preserve a proper and equitable ratio and balance between the state revenue and that of the localities, and these changes may be made by the General Assembly.

The General Assembly has created a commission to study conditions between sessions and to report to the next budget committee and to the next session. The work of this commission will be to study the operation of the present tax system, and the revenue derived therefrom by the state and by the respective localities. Special inquiry will be made as to the efficiency and fairness with which the tax laws are being administered, so as to determine whether any apparent deficiency which might develop in any quarter should be corrected by a change in the laws or by greater diligence in their enforcement. The several needs and demands of the state and of the cities and counties are to be given consideration, and a comparison made between proper costs of the legitimate functions of the various governmental agencies and the revenue provided with which to meet these costs. Local city and county budgets will be analyzed and careful observation made of fluctuations in revenue due to economic changes.

From a digest of such information the commission will make its report and recommendations to the State Budget Commission at its next meeting, and to the 1932 General Assembly.

Mr. Staples is a State Senator of Virginia and is chairman of the Staples Commission, organized to study and report on the working of the segregation tax system in Virginia.

# IRON, STEEL AND METAL MARKET

## Orders Coming in for Steel

Pittsburgh, January 12—[Special.]—In the past week, really the first of the new year, there has been a distinct increase in order receipts in nearly all finished steel products. While steel makers feel reasonably certain there will be progressive seasonal increase in steel demand for several months, they are indisposed to count too much upon any showing made in so short a space of time and just after annual inventory taking. There was such rigid curtailment of stocks that a little burst of buying might come simply for replenishment.

Producers of sheets, strips and cold finished bars see more increase in buying by the automobile trade than in buying elsewhere, but in this matter also they have some doubts, as the necessary stocking of dealers with new models might make a spurt. Buying by the public is what must count in the long run and nothing that occurs now would be much of an augury in that respect. Any substantial recovery in the automobile industry would be taken as a very favorable index as to general economic conditions, for the whole course of things in steel for months past has indicated that it is buying power of the people more than buying power of corporations, utilities and governmental subdivisions that has been impaired.

Steel ingot production in December is officially reported at 38.57 per cent of capacity, against 44.64 per cent in November. Production was a trifle heavier than commonly estimated during the month. The official computation excludes Christmas only from the reckoning as a working day whereas it made much more than a 24-hour interruption in many cases. Thus the real rate may be taken at somewhat over 40 per cent. Nevertheless there was more than usual seasonal decrease November to December. The January report will be awaited with particular interest. Regularly there has been an increase over December and if there is a few per cent increase, that will be of fundamental importance, showing that steel is no longer yielding by reason of general trade recession. It reflected such recession strongly in September and October, when steel production decreased instead of experiencing usual seasonal increase.

The Pennsylvania Railroad has allocated to the respective mills the 200,000 tons of rails about which it inquired recently, 150,000 tons firm and 50,000 tons

under option. The tonnage is considerably less than the average of recent years. Recent unofficial compilations of rail production in 1930 would indicate that a very substantial part of the tonnage bought by the various railroads a year ago was not taken out. The buying was early and heavy, the railroads being quite ready to help the steel industry when it needed help after the stock market collapse, but later on their earnings so decreased that they felt it well to economize.

Fabricated structural steel lettings are in general at a fair rate, but they have not done as well in the last four months as in the first eight months of last year, when there was better sustained activity in that direction than in steel buying generally. However, trade reports indicate that in the last three months nearly one-half more tonnage has come up for bidding than has actually been placed.

Early in December several inquiries appeared for large lots of line pipe, chiefly for natural gas lines, and it looks now as if some large orders would be placed shortly. This would open the season earlier than last year, when there was hardly any buying until the latter part of March, whereupon there was a rush, giving line pipe producers capacity operation for months.

Finished steel prices have lately been steady all along the line, indeed remarkably steady. There has been a change of attitude on the part of price cutters in the various finished products that were irregular, but not until some of the lines got below the cost line even with a fair operating rate, and with low rates costs are higher. For years nails and sheets have generally shown more irregularity than other lines and their firmness now is thus a good indication of steel price stability in general.

## Metals in General Tend to Decline—Some Other Trends Are Favorable

New York, January 12—[Special.]—Trends among the metals have been rather mixed although the more common baser metals have inclined downward sharply. The most drastic change has taken place in lead which had been unchanged in price until last week since October 10. On Monday the American Smelting & Refining Co. marked prices lower by \$2 per ton. On Wednesday the

price was depressed \$3 per ton further; the next day a reduction of \$2 more was made to 4.75c, New York, the lowest levels since April 3, 1922.

Meanwhile the price of zinc was reduced to 4c per pound, East St. Louis, which is close to the 1930 low, after December statistics proved less favorable than expected. Copper developed a weak undertone along with the other major metals. However, tin and antimony have revealed strength, these being the two metals used in this country with source of supply outside the country. Tin soared to 27½c per pound at the middle of the week, the highest price in several months, while antimony rose to 7½c per pound, duty paid, another high for a long time. Tin was back to 27 cents late in the week.

Silver was among the depressed metals, selling on Thursday at 28¾ cents per ounce, a new low in the history of the industry. The public, which ordinarily is concerned but little with metal prices, realizes the low price of silver since a prominent five and ten cent store has been selling collar buttons, stamped "sterling silver" at five cents each.

However, there have been some optimistic developments in industry in general. It was noted in these columns two weeks ago that many small plants, long idle, were resuming operations, plants which employed 100 to 400 men each. During the past week it has been announced that many shops and plants employing men in the thousands have resumed operations on an extensive scale, particularly the railroad shops and the automobile plants.

Moreover, the steel industry is increasing operations more rapidly than had been expected generally. Operations are apparently 41 to 42 per cent of capacity. Automobile production in December was 155,185 cars in the United States and Canada as against 134,844 in November and 125,502 in December of last year. Moreover, current inventories of new car stocks are 25 per cent below a year ago. It is expected that unfilled orders of the United States Steel Corporation will have increased 250,000 tons during December, the best showing for any month in 1930.

Though the trend of zinc statistics was favorable, the changes for the better were not sharp enough to please the trade. Although surplus stocks were reduced during December for the first time that year, the reduction came to but 1563 tons, or much less than increases during recent months had been.



Production had been lower in December as to daily rate, yet the aggregate production was slightly greater. Shipments increased nearly 4000 tons, which was the best feature of the figures.

Copper statistics for December will be issued today or tomorrow. Many are predicting a favorable showing. Some companies have reported large shipments during December which should go a long way toward reducing stocks. However, some predictions less optimistic have been heard.

The copper price and market situation are somewhat irregular. Primary producers are out of the market entirely; only custom smelters among the producing class will sell, and their price is 10 to 10¼ cents. Second hands, or brokers, will sell at 10c per pound or even lower for January shipment. The export price is unchanged at 10.80c c. i. f. European ports. During the past few days export sales have been very small, though totaled over 1000 tons daily late the preceding week and the first day or two of the past week.

Japan's copper producers have joined the world movement to curtail production. Effective January 1, they were cutting to 6200 tons monthly as against 6800 tons previously; in other words, they are down to 91 per cent of what is regarded as normal. The original proposal had been a cut to 88 per cent, but not all producers would agree to that.

The decline in lead prices was a surprise to many, especially since it was known that consumers would be forced into the market soon to replenish stocks. The drop was evidently a belated one, other metals having gone to new lows several months ago.

Tin has been stimulated by new plans to fit supply to demand. Whereas previous restriction schemes have been voluntary, the new plan is semi-compulsory, having the backing of governments of four producing countries. Consumption of tin is much better at the moment. American tin plate mills are working at 60 per cent of capacity, which is 20 points above the general average for operations in the steel industry.

### Increased Activity Brings Change in Outlook

Birmingham, Ala., January 12.—[Special.]—Gradual upturn in industrial circles in this district is at hand, resumption of operations at the steel rail mills of the Tennessee Coal, Iron & Railroad Company and the affiliated open hearth and blast furnaces together with mines and quarries to supply raw material, bringing about a great change

in attitude. Smaller industries, including structural steel fabricating shops, cast iron pressure pipe shops and other works in which iron and steel participate, are swinging into the column of improved conditions and a large number of men are being called back to work. Operations are not to be at capacity but decidedly better than for a long time.

Accumulation of orders from railroads gives warrant for resumption of the rail mill. Also, orders have been placed for track fastenings and other accessories. Other business is in sight and operations will be kept steady for some little time ahead.

Fabricating shops have fared well recently. In addition to local jobs, such as hangar for airport, steel for underpasses in elimination of grade crossings, new tipple and crushing plant for the slag concern, it is announced that 10 of the 50 barges ordered by the Inland Waterways Corporation for use on the Mississippi and Warrior rivers will be fabricated here, Ingalls Iron Works Co. having the contract. Ingalls has contract also for something like 5,000 to 6,000 tons on the Louisiana capitol work at Baton Rouge. In addition to building a new capitol that state is doing a large amount of wharf, road and bridge building, and considerable tonnage of steel, structural, reinforcing concrete bars and other shapes will be required.

Alabama is letting contracts for roads and bridges right along, two bridges being let the past week in Jefferson, the largest county of the state.

Large cities are placing orders for cast iron pipe, and production is being increased. The American Cast Iron Pipe Company has its new centrifugal pipe shop in operation and is manufacturing 16-foot lengths up to 24-inch diameter sizes. The base price on pipe has been \$37—\$38, six-inch and up for many months.

Orders for pig iron have been coming in slowly, in small lots, with aggregate tonnage not much more than production at present. The make has been held down very materially. Two blast furnaces on basic iron will be in blast this week after having fires banked for some time. Three furnaces are in shape to resume operations when there is warrant and one furnace is being relined to be ready during February. The base price is given at \$14, No. 2 foundry, though temporary weakness developed recently. Very little iron has been sold the past week or so for shipment outside the territory though there is yet quite a tonnage due. None of the steady melters started in the new year with any appreciable tonnage on yards.

A two-ton Brackelsberg furnace, a late development at the plant of the

Goslin-Birmingham Company and Whiting Corporation, affiliated, is attracting attention. This furnace is specially adapted to the production of high-grade iron and steel for castings. It is also possible to use it in the handling of non-ferrous metal. It is being fired with pulverized coal successfully and economically, but is so constructed as to be fired either with oil or gas. Coal has proven the cheapest fuel.

Connors Steel Company is back on reinforcing concrete bars in its shops and the entire mill, with one department excepted, will be in steady operation.

Portland cement production is picking up steadily. The several mills in the district have been participating in the active distribution of contracts in the road building program in this and adjoining states.

Scrap iron and steel continues dull. Organization of the Southern Chapter of the Institute of Scrap Iron & Steel Inc. was completed here the past week with W. M. Smith, Birmingham, president. Benjamin Schwartz, director general of the Institute, delivered the principal address and told of the purposes and aims of the Institute and how Southern dealers could cooperate to the satisfaction of consumers, producers and others in the trade.

Preparations are well in hand for the regional meeting of the American Foundrymen's Association in Birmingham January 20-21, the foundries and affiliated interests here to entertain. Three hundred foundrymen from all sections of the South will come here for the gathering and a program of interesting papers and discussions has been arranged. Tours will be made of the industries of Birmingham and immediate district.

#### PIG IRON QUOTATIONS

No. 2 foundry, 1.75 to 2.25 per cent silicon, \$14.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$14.50; iron of 2.75 to 3.25 per cent silicon, \$15.00; iron of 3.25 to 3.75 per cent silicon, \$15.50.

#### OLD MATERIAL

Steel rails .....	\$11.00 to \$12.00
Steel axles .....	14.00 to 14.50
Iron axles .....	14.50 to 15.50
Heavy melting steel.....	9.50 to 11.00
No. 1 cast.....	10.00 to 10.50
Stove plate .....	8.50 to 9.50
No. 1 railroad wrought.....	9.50 to 10.00
Car wheels .....	10.00 to 11.00
Tramcar wheels .....	10.50 to 11.50
Machine turnings .....	7.50 to 8.00
Cast-iron borings .....	7.50 to 8.00
Cast-iron borings (chem.).....	12.50 to 13.00
Rails for re-rolling.....	11.25 to 11.75

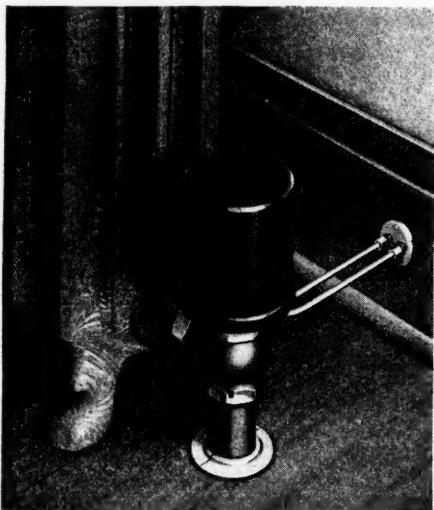
The Treasury Department awarded contract to the M. R. Harrison Construction Co., Miami, Fla., for clearing the site for a \$1,641,000 post office and custom house in that city, for which Phineas E. Paist & Harold D. Stewart are architects; L. Murry Dixon, associate architect; Maurice H. Connell, mechanical engineer, all of Miami, and Harvey Baxter, structural engineer, Coconut Grove, Fla.



# NEW AND IMPROVED EQUIPMENT

## Temperature Control

An electric system of temperature control, manufactured by the Barber Colman Company, Rockford, Ill., consists of motor operated valves, several types of thermostats, damper rollers, etc., electrically connected and electrically

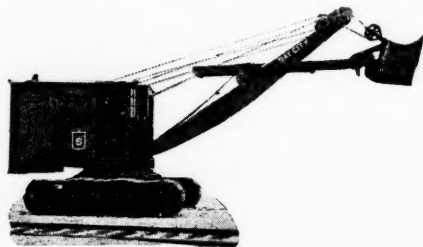


Electrically Operated

operated. The system may be installed in new or old buildings and may be placed in the whole structure or in any part of it. Small thermostats actuate the controlled apparatus on a temperature variation at the thermostat of one degree Fahrenheit above or below the set point. The system is designed to operate on a 25-volt, 60-cycle alternating current.

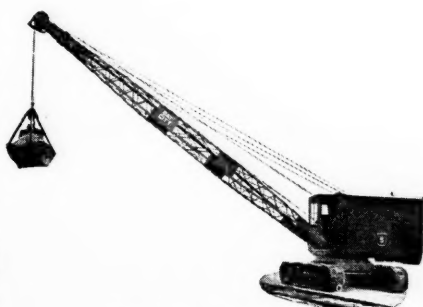
## Convertible Shovel and Crane

As an addition to its line of convertible power shovels, and cranes, the Bay City Shovels, Inc., Bay City, Mich., announces the new model S, full-revolving



Operated As Shovel

convertible power shovel, with full-crawler mounting and enclosed steel cab. It may be provided with gasoline, oil engine or electric power. Equipped as a shovel, it weighs 63,000 pounds, with a rated capacity as a full one-yard shovel or excavator, or a 17-ton crane at a 12-



With Crane Attachment

foot radius. This model is furnished with shovel, dragline, trench hoe, clam-shell or crane bottom attachments, all of which are convertible. It follows closely the design of the Bay City model R  $\frac{3}{4}$ -yard machine, with exceptionally large diameter center pin and swing circle, cast car body and machinery table, frictionless ball or roller bearings, special steel shafting, high pressure lubrication, machine cut or forged and hardened steel gears, E-Z lever control, fast operating speeds and wide clutch surfaces. The one-yard model is powered by a Climax "Blue-Streak" gasoline engine; the shovel boom is 21 feet long with chain crowd and cast manganese dipper; crane booms are 25 to 60 feet, and the crawler tread is 22 inches wide. The machine ships without dismantling.

## Grader of Large Capacity

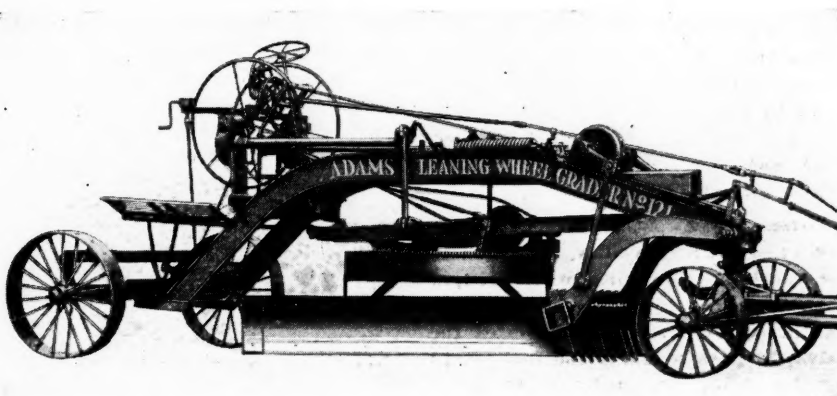
The J. D. Adams Company, Indianapolis, Ind., manufacturers of Adams adjustable leaning wheel graders, road building and maintenance machinery, announce a new type of leaning wheel grader of increased capacity and greater strength, with a wide range of blade adjustments. The blade may be swung outward to cut a 60-degree slope on a bank with the wheels on the level, and

under many working conditions which permit putting the wheels part way up the bank the slope may be made still steeper. The 12-foot blade may be extended about 6 feet beyond the wheel line and the 14-foot blade about 8 feet, while the addition of a standard mold-board extension will permit an additional 3 feet to these reaches. A feature of the machine is a front tilting adjustment on the semi-circle which permits a



Has Wide Range of Blade Adjustments

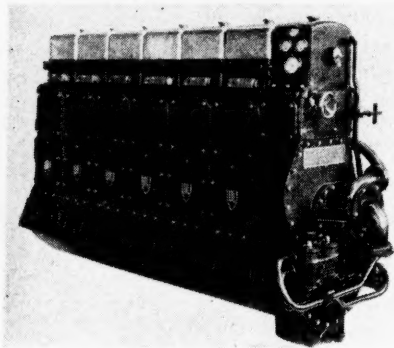
wide range of blade adjustments, and a high point of construction is the Adams frame of two heavy ship channels, cross connected by five large tubular members welded to the frame beams. The draw bar is of heavy H beams and all gears are enclosed, the latter being machine cut from forged steel blanks and the worms from semi-steel blanks. All worms are fitted with Timken roller bearings for end thrust, making control operation easy, and all connections in the blade and scarifier controls, blade side-shift and semi-circle tilting adjustments are of the machine-finished ball-and-socket type, Alemite lubricated and fully adjustable for wear. The grader is produced in sizes No. 121, with 12- or 14-foot blade, and No. 22 with 8-, 9- or 10-foot blade, and both models may be had with or without scarifier.



Broadside of Adams New Type Leaning Wheel Grader

### De La Vergne Diesel Engine

A De La Vergne high speed Diesel engine made by I. P. Morris & De La Vergne, Inc., Philadelphia, was exhibited at the New York Power Show in December. A product of one of the oldest oil engine builders in America, this new engine known as model VH, was designed and constructed for 750 revolutions per minute, with essential quali-



High Speed With Light Weight

ties, it is said, to make such high speed conservative and reliable. It is described as being adaptable to any kind of service. Bedplates, power take-offs, reverse gears, flywheels, clutches and radiator cooling may be provided as required and the engine run at any constant speed from 300 r. p. m. up to the rated speed of 750 r. p. m. It is built in three to eight cylinder units.

Construction is rugged, with moving parts enclosed by dust-proof and oil-tight covers and all wearing parts renewable. Bedplate is of electric furnace iron, rigidly designed, while beds for the circular mainbearing shells are bored to practically perfect alignment. Main bearings are removable circular steel shells lined with babbitt by a special process, and the crankshaft is made of a solid steel forging finished to close tolerances. Flywheels are furnished to suit service and weigh between 2000 and 4000 pounds, while frame and cylinder housings are in one piece, cast of electric furnace iron, one block extending from the base to the cylinder heads. Cylinder liners are of electric furnace nickel iron and are easily removable, as are the cylinder heads, each held down by four bolts. Two exhaust and two inlet valves are installed in each head and the cooling water flow is guided around all valves.

Pistons are of cast or electric furnace iron or of aluminum alloy, according to the speed of the engine, with wristpin bushings of bronze. The camshaft is located in the frame and operates the valves by push rods and the fuel pumps directly, being driven by silent roller chains. Completely enclosed, but readily accessible, the governor is designed for

fixed or variable speed, hand control being furnished where required. Fuel pumps and spray valves are made by the Robert Bosch Magneto Company, Inc., Long Island City, N. Y., an individual pump being supplied for each cylinder. The exhaust header is water-cooled and the inlet header is arranged for dust, gas and oil tight connections to the outside. Bearings and running parts are automatically lubricated by oil flow under pressure. The engine is rated at 300 horsepower; its net weight is 10,000 pounds.

### Mechanical-Drive Turbine

The General Electric Company, Schenectady, N. Y., announces a new small mechanical-drive steam turbine, designated Type D-58, for driving fans, pumps and similar industrial equipment. It is designed for operation at steam pressures up to 250 pounds, and speeds between 1200 and 4000 r. p. m., with capacities up to approximately 250-horsepower and is built only as a single-stage machine. The turbine is a light and compact unit supported at the center line to permit expansion without affecting the shaft alignment. It is equipped with speed regulating and emergency governors and is fitted with carbon shaft packing. Pipe connections are made to the lower half of the turbine to facilitate opening for inspection.

### The Marion Mule

The Marion Steel Body Company, Marion, Ohio, manufacturers of dump body equipment, recently acquired control of the R. J. W. Manufacturing Company, Bucyrus, Ohio, manufacturers of steel mules, and have reorganized the company as Marion Mules, Inc., announcing a new product to be known as the Marion Mule. For motive power, steel wheels, crawlers or pneumatic type equipment may be used and interchanged in the field. Crawler tracks are Marion designed and built with driving sprocket on Timken bearings, while the power plant is a McCormick-Deering model, 10-20 Industrial tractor unit with a

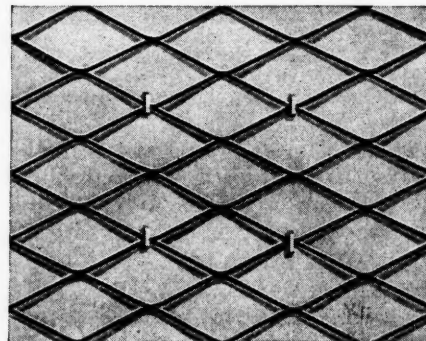


Has Dual Pneumatic Tire Equipment and Bull-dozer Attachment

transmission of four speeds forward and one reverse, mounted complete in a heavily constructed chassis frame. Front axle is of Marion design, full floating and oscillating. Tractor drive axle does not carry the load, but an auxiliary or dead axle in the rear is fixed to the chassis for supporting the load and driving wheels. The body has a capacity of 4 cubic yards, increased by use of sideboards to 5 cubic yards; it is gravity operated and when in lowered position easily bulldozes the load. Machine parts of the chassis are of alloy steel or forgings, reinforced and ribbed to stand heavy going.

### Insulmesh for Plaster Base

Truscon Insulmesh, a product of the Truscon Steel Company, Youngstown, Ohio, is described in a new catalog issued by the company. It is a plaster base, and is said to combine in one product the low first cost of wood lath; the crack prevention and fire-safety of metal lath, and the plaster economy and insulating ability of fibre and plaster boards. The mesh is made from 22-gauge steel, expanded into diamonds 1½ by 3 inches, and is painted to prevent



A Truscon Steel Product

rusting. It is rigidly stapled to a flat surfaced corrugated backing, the mesh extending beyond one side and end of the backing so the metal laps at all joints. Qualities claimed for the product are: Superior and continuous reinforcement, great rigidity, permanency, insulation against heat, cold and sound, adds strength to framework, minimizes cracking and is suitable for stucco. It is furnished in sheets 27 by 48 inches and is shipped in bundles of 40 sheets. Galvanized mesh may also be supplied.

### Name Hospital Architects

Houston, Tex.—Subject to ratification by the Harris County Board of Commissioners, Alfred C. Finn and Joseph Finger, Houston, have been commissioned by the City of Houston as architects for the new city-county charity hospital to be erected here at a cost of \$1,500,000.



# CONSTRUCTION DEPARTMENT and NEW ENTERPRISES

Covering the initial announcements of new undertakings with additional information about enterprises previously mentioned. The date at the end of an item indicates preliminary facts were given in a previous issue.

When writing to a new firm or corporation the name of at least one of the incorporators should be placed on the envelope to expedite its handling by the local postoffice. Mail may be delayed unless complete address is given.

Building and Construction Proposed and Contracts Awarded; Manufacturing, Mining, Power, and Land Developments; Public Works; Transportation; Communication; Financial Enterprises; New Business Opportunities Reported in the Sixteen Southern States.

The Daily Construction Bulletin of the Manufacturers Record gives each business day advance news published in this weekly review. It is invaluable to those requiring prompt information. Subscription price \$40.00 a year.

## Airports, Airplane Plants, Etc.

Ala., Birmingham—Virginia Bridge & Iron Co., Roanoke, Va., reported, has contract for 150 tons steel for hangar, city airport. 1-1-31

Ark., Fayetteville—City, has plans by E. M. Ratliff, City Engr., for improvements to airport, drain site of 170 acres, etc.

Fla., Lake Wales—City, reported, plans airport.

Fla., Miami—All-American Airways, Inc., J. H. Wentworth, Pres., Court House Rd., reported, soon call for bids for hangar N. W. Twenty-seventh Ave. and Gratigny Rd.; Chas. P. Nieder, Archt., Calumet Bldg. 10-16

La., New Orleans—New Orleans Levee Bd. has approved plans for construction of \$1,500,000 airport, to be known as Shushan Airport, and will open bids Feb. 6 for construction of seawall portion of project; creation of airport will involve placement of about 5,000,000 cu. yds. of fill to be obtained from lake bottoms; site selected is in Lake Pontchartrain adjacent to shore line and east of property line of industrial canal which connects the lake with the Mississippi River; longest dimension of airport will be on southern boundary along shore line of lake and will measure 5400 ft.; field will extend into the lake with converging side boundaries terminating at lake in circular curve; area will be 287 acres and projection into lake 3950 ft.; 3 of 4 sides will be adjacent to water, fourth side will be adjacent to right-of-way of Southern Railway; reservation along this side is made for hangars, administration building and other utilities; parking space for 2500 cars will be available; completion of field during current year; John Klorer, Ch. Engr. of Orleans Levee Bd. 1-8-31

Mo., Bridgeton—C. H. Schroeder Building & Construction Co., 4246 Natural Bridge Rd., St. Louis, reported, has contract for 1 story, 90x120 ft., brick, steel and conc. hangar for U. S. Naval Reserves, St. Louis Airport; E. J. Fisher, 4134 Westminster St., St. Louis, for drainage and plumbing; Franke Bros. Heating Co., 4723 Delmar Blvd., St. Louis, for steam heating; Vierheller Electric Co., 1111 Pine St., St. Louis, for electrical work; total cost \$57,933. 12-18

N. C., New Bern—City, reported, plans establishing airport.

Okla., Oklahoma City—City, George F. Brown, City Engr., reported, construct administration building at airport; Western Paving Co., Petroleum Bldg., will probably receive contract for base gravel; Blackburn Construction Co., for grading. 12-25

S. C., Greenville—R. L. Simpson, Greenville, reported, has contract for depot for Eastern Air Transport, 225 Broadway, N. Y., Milton G. Smith, Chrmn., Airport Comsn. 12-25

Tenn., Knoxville—Seaboard Airways, New York, reported, granted permit by Tennessee Railroad and Public Utilities Comsn., Nashville, to operate passenger airplane route between Knoxville, Memphis, Chattanooga and Nashville; construct air passenger depot; Warren B. Ferris, Columbus, O., is president of company; N. Fred McMillan, Local Legal Repr., 2917 Linden Ave.

Va., Richmond—W. S. Erwin, Ch., Division of Supplies, Dept. of Commerce, Washington, D. C., receives bids Feb. 10 for installation of lighting facilities on Florence-Richmond section of Jacksonville-Richmond Airway. See Want Section—Bids Asked.

## Bridges, Culverts and Viaducts

### Proposed Construction

Alabama—State Highway Comsn. has low bids for 4 bridges. See Roads, Streets and Paving.

Arkansas—State Highway Comsn. receives bids for 2 bridges. See Roads, Streets and Paving.

Ala., Geneva—Geneva County Comms. deferred letting contract for bridge over Choctawhatchee River, Hartford Bellwood road until May or June. 12-4

D. C., Washington—Comms., District of Columbia, Dist. Bldg., have low bid from F. Carozza & Son, Old Town Natl. Bank Bldg., Baltimore, at \$53,025, for widening Monroe St. bridge over B. & O. tracks. 1-1

Kentucky—State Highway Comsn., H. D. Palmore, Engr., Frankfort, opens bids Feb. 18 for Clarks River bridge; superstructure consists of 2 125-ft. and 160-ft. steel truss spans, 60-ft. steel I-beam; substructure, rein. conc. piers and abutments, McCracken County, F. A. 207 AB. 1-1

Ky., Henderson—Louisville & Nashville R. R. Co., W. H. Courtenay, Ch. Engr., advises regarding proposed \$5,000,000 trestle over Ohio River, construction of bridge has not been authorized by railroad. 1-8

Louisiana—State Highway Comsn. has low bids for 6 bridges. See Roads, Streets and Paving.

La., Natchitoches—City build bridge over Cane River Lake in 1931.

La., New Orleans—Comsn. Council has low bid from Gervais F. Favrot, Balter Bldg., at \$12,219, for conc. and steel bridge over Orleans Ave. Canal, axis of St. Patrick St. 1-1

La., Sterlington—State Highway Comsn., O. K. Allen, Chrmn., Baton Rouge, and U. S. Engr. Office, Maj. John C. H. Lee, Vicksburg, holds hearing at Courthouse, Monroe, Jan. 21 to determine location for bridge over Ouachita River, 1 of 3 structures provided under \$600,000 bond issue.

Md., Baltimore—City, H. F. Lucke, Jr., Bridge Engr., probably open bids Feb. 4 for \$350,000 to \$400,000 Baltimore St. bridge over Gwynn's Falls Valley; about 500 ft. long, rein. conc. throughout, 40-ft. roadway, 2 6-ft. sidewalks. 1-1

Mississippi—See Roads, Streets and Paving.

Missouri—State Highway Comsn. receives bids for 34 bridges. See Roads, Streets and Paving.

Mo., Gasconade—Gasconade Bridge Co. has plans complete for bridge over Gasconade River, probably let contract about Mar. 1; steel cantilever truss with central span 276 ft., and outer spans 210 ft. each, total length 766 ft., piers will be on pile foundations. 12-18

Oklahoma—State Highway Comsn. has low bids for 23 bridges. See Roads, Streets and Paving.

Oklahoma-Texas—John Nabors, Wilbarger County Engr., Vernon, Tex., completing plans for 3705 ft. creosoted pile bridge with steel I-beam stringers, conc. floor, 22-ft. roadway, Texas Highway 23, North of Vernon. 1-1

Okla., Tulsa—See Roads, Streets and Paving.

Tennessee—State Dept. of Highways and Public Works receives bids for 14 bridges. See Roads, Streets and Paving.

Texas—See Railways.

Tex., Dallas—Dallas County, C. E. Gross, Auditor, opens bids Jan. 26 for \$435,000, 600-ft., rein. conc. underpass and approach to Corinth St. viaduct; Rollins & Clinger, Dist. Engr.

Tex., New Braunfels—City, H. A. Treisch, Mayor, considering \$35,000, conc. bridge over Comal leading to Warnecke Camp; Torrell Barrett Engineer, Inc., Smith-Young, Tower San Antonio. See Financial News Columns.

Virginia—State Dept. of Highways, Richmond, has low bids for 2 bridges: bridge over Great Creek, Route 12, Brunswick County, F66B1, C. M. Buchanan & Co., Clarksville, \$9647; bridge over Totaro Creek, Route 12, F566B2, Fredericksburg Bridge Co., Fredericksburg, Va., \$2483. 12-25

Virginia—State Dept. of Highways opens bids Jan. 27 for 7 bridges. See Roads, Streets and Paving.

Va., Alexandria—City, Wallace Lawrence, City Mgr., advises bids will be asked about Feb. 1 for bridge, Mt. Vernon Ave.; to be built by City, and Arlington County, C. L. Kinnear, Engr., Courthouse, Rosslyn. 12-25

### Contracts Awarded

Okla., Arapaho—Custer County, Jesse Hatcher, Clk., let contract to Nims & Frost, Hydro, at \$340,990, for 1110-ft. steel truss bridge on conc. piers over South Canadian River near Thomas; Ralph James, Const. Engr., 519½ W. Main St., Oklahoma City. 11-27

## Canning and Packing Plants

Miss., Columbia—Decatur Iron & Steel Co., Decatur, Ala., reported, has contract for 100 tons fab. struc. steel for canning plant for Dorgan-McPhillips Packing Co.; Dye & Mullins, Gen. Contr., Columbia. 12-18

Miss., Tylertown—Tylertown Chamber of Commerce, H. H. McLeod, Sec., interested in packing plant.

Tex., Nacogdoches—Nacogdoches Truck Growers Assn., Rho Cox, Pres., reported, interested in establishment of canning plant.

## Coal Mines and Coke Ovens

Mo., Moberly—C. G. Shaw, Missouri City; Grant Stauffer, 6421 Washington St., Kansas City, and associates acquired 2000 acres near Moberly; will begin development in the spring; Alex Shaw, Huntsville, local representative. 1-8-31

W. Va., Winifrede—Winifrede Collieries, D. H. Morton, Pres., reported, plans expending \$60,000 on repairs to recently acquired mine of Winifrede Coal Co. 1-8-31

## Cotton Compresses and Gins

La., Lake Charles—Lake Charles Compress and Warehouse Co., Geo. F. Kelly, Sec. Treas., Hutchins St., reported, plans expansion program; increase handling capacity from 200,000 to 250,000 bales per season; install compressing machine; build unloading platforms, etc.



Miss., Swan Lake—Tippo Gin, incorporated; H. O. Bland, E. E. Laird.

S. C., Charleston—City Compress and Warehouse Co., incorporated; F. C. Billing, 145½ Church St.

### Drainage, Dredging and Irrigation

Fla., Jacksonville—U. S. Engr. Office let contract to Reliable Dredging Co., 404 East Bay St., at \$57,475, for dredging 605,000 cu. yd., place measurement, northerly part Indian River portion of Intracoastal Waterway, Jacksonville to Miami. 12-25

Miss., Biloxi—See Miscellaneous Construction.

North Carolina—See Virginia.

Tex., Brownwood—Southern States Steel Corp., 503 S. Haskell St., Dallas, has contract for 650 tons conc. bars in connection with dam and spillway of Brown County Water Improvement Dist. No. 1, D. W. Ross, Engr.; Standard Paving Co., Gen. Contr., Majestic Bldg., Fort Worth, and 2119 E. 11th St., Tulsa, Okla. 11-26

Tex., Corpus Christi—U. S. Engr. Office, Galveston, opens bids Jan. 20 for deepening Corpus Christi ship channel to 30 ft., Aransas Pass to breakwater here. 1-8

Tex., San Angelo—S. Jones & Associates, have preliminary surveys for irrigating several thousand acres.

Virginia—U. S. Engr. Office, Navy Bldg., Washington, D. C., opens bids Jan. 20 for dredging 133,075 cu. yd., Rappahannock River.

Virginia—U. S. Engr. Office, Wilmington, Del., opens bids Jan. 22 for dredging approx. 15,000 cu. yd. material from Little Machipongo River.

Virginia—U. S. Engr. Office, Norfolk, has low bids for drainage aggregating approx. \$1,000,000; Harrison Bar, near City Point, 1,700,000 cu. yd., Standard Dredging Co., 233 Broadway, New York; Tribbel Shoals, 1,700,000 cu. yd., Atlantic, Gulf & Pacific Co., 13 Park Row, New York; Swan Point-Dancing Point Shoals, 1,000,000 cu. yd., Delaware Dredging Co.; Rockland Shoals, 500,000 cu. yd., government probably do work; Norfolk Harbor, including dredging at anchorage adjacent to Craney Island, dredging out channel in western branch of Elizabeth River and deepening Willoughby Spit Channel, Standard Dredging Co.; Nansemond River, Tyler Construction Co., 716 E. Charlotte St., Norfolk; Knobbs Creek, N. C., dredging channel, Norfolk Dredging Co., Compostella Wharf, Norfolk; Edenton Harbor, Roanoke River, N. C., Norfolk Dredging Co. 1-1

### Electric Light and Power

Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

Ala.—Alabama Power Co., Thomas W. Martin, Pres., Brown-Marx Bldg., Birmingham, will expend \$10,000,000 in Alabama in 1931 in construction and operating program; extension of transmission and distribution system for connection of new customers and communities will absorb bulk of \$5,000,000 set aside for construction purposes; remaining \$5,000,000 will be expended for operation, including materials, supplies, wages and taxes. 1-8

Fla., Palm Beach—Town will vote Feb. 17 on granting 30-yr. franchise to Florida Power & Light Co., Miami.

Ky., Louisville—United Founders Corp., L. H. Seagraves, Pres., 860 Dixie Highway, reported, acquired voting control of United States Electric Power Corp., 1 Exchange Place, Jersey City, N. J.; United States Electric Power Corp., jointly with H. M. Byllesby & Co., 231 S. LaSalle St., Chicago, Ill., controls (through Standard Power & Light Corp., 1 Exchange Place, Jersey City, N. J.) gas and electric system serving utilities in Louisville, Ky., and Oklahoma.

La., Opelousas—Graybar Electric Co., Graybar Bldg., New York, reported, has contract for white water system.

Md., Princess Anne—Maryland Light & Power Co., subsidiary of Empire Public Service Co., 1600 Arch St., Philadelphia, Pa., reported, extending electric line into Wicomico county line south of village of Allen.

Md., Baltimore—See Gas and Oil Enterprises.

Md., Baltimore—Consolidated Gas, Electric Light & Power Co., Lexington Bldg., is going ahead with installation of second of series of 8 stokers in program involving about \$700,000 at Westport plant; American Engineering Co., 218 Water St., Baltimore, and 2431 Aramingo St., Phila., Pa., has contract for stokers and waterfalls involved; 280 tons of steel being furnished by Maryland Steel Products Co., Standard Oil Bldg., all Baltimore; rebaffling of boilers and adding of flag screens being done by Edge Moor Iron Co., Edge Moor, Del.; ash sluicing equipment being supplied by Allen-Sherman-Hoff Co., Lewis Bldg., Philadelphia, Pa.; G. F. Harris, Company Engr.

Mo., Doe Run—Doe Run DeLassue Light and Power Co., J. W. Boswell, Pres., completing 7 miles of power line connecting with city; Reynolds Electric Co., Contr., Farmington. 1-1-31

Okla., Hominy—City, reported, having plans prepared by V. V. Long & Co., Colcord Bldg., Oklahoma City, for power plant; cost \$150,000. 12-25

S. C., Charleston—South Carolina Power Co., reported, expend \$1,700,000 during 1931 for operation and construction.

S. C., Hardeeville—Hardeeville Light and Ice Co., incorporated; S. A. Kennedy, R. R. Smith.

Tex., Brownsville—City, Z. A. Rosenthal, City Mgr., receives bids Jan. 30 for superheater and mechanical equipment for improvement of existing boilers; L. D. Royer, Smith-Young Tower, San Antonio, Consult. Mech. Engr.

Tex., Austin—Emery, Peck & Rockwood Development Co., Scarborough Bldg., Austin, reported, receives bids Jan. 29 for construction of dam and powerhouse on Colorado River, about 50 miles west of Austin; work begun on construction of 5-mile railroad from dam site to Southern Pacific lines; dam will be 9000 ft. long and 137 ft. above river bed; cost \$9,000,000; project will require about 2½ yrs. to complete. 11-13

### Fertilizer Plants

S. C., Hartsville—Hartsville Fertilizer Co., capital \$100,000, incorporated; F. W. Atkinson, J. H. Hunt.

### Flour, Feed and Meal Mills

Tenn., Nashville—Royal Milling Co., 145 N. First St., reported, announced purchase of Ford Flour Co., Bass St.

### Foundry and Machine Plants

Ala., Birmingham—Stockham Pipe & Fittings Co., 4100 10th Ave., N., reported, acquired 53 acres adjoining plant in East Birmingham for possible expansion.

Md., Baltimore—Harry C. Weiskittel & Co., Inc., plans erecting 160x250 ft., pipe foundry; 40x225 ft., pattern and machine shop; 64x266 ft. gas range factory, and 60x60 ft. garage at Monument St. and Philadelphia Rd.; all 1 story; rein. conc.; brick; E. Ayring & Son, 808 S. Conklin St., Builders.

Okla., Oklahoma City—Motor Parts and Machine Co., reported, leased building Seventh St. and Harvey Ave.; will install \$50,000 machinery.

### Garages and Filling Stations

Ark., Little Rock—McGregor & Pickett, A. O. U. W. Bldg., reported, has contract for service station S. W. Cor. Second St. and Broadway, for Wright Tire & Service Co., formerly, Wright Motor Co., 400 Center St.; 2 story; brick, conc. and stone, with drive in service entrance; Shaw Gas & Plumbing Co., 1401 W. Third St., has contract for plumbing and heating; Toll Electric Co., 1210 Booker St., for electrical equipment; Petter & McAninch, Inc., Architects, Pyramid Life Bldg. 10-30

Fla., Mayo—O. O. Edwards, reported, let contract to George W. Livingston, Newberry, for brick and stucco filling station.

Fla., Miami—Orange State Oil Corp., N. E. Fifty-fifth Terrace, reported, let contract to Clarence Miller, 67 N. E. Fifty-third St., for service station S. W. Eighth St. and 12th Ave.

Fla., Milton—Allen-Faircloth Motor Co., reported, plans construction of 25-ft. addition to building; conc. walls and floor.

Fla., River Junction—W. C. Vason, reported, let contract to J. H. Boring, Quincy, for filling station.

Ga., Pelham—J. M. Culpepper & Son, Pelham, reported, low bidder for 1 story and basement motor building; 60x100 ft.; brick walls; steel sash; plate glass front; tar and gravel roof; Dennis & Dennis, Archts., 556 Mulberry St., Macon. 12-11

Ga., Savannah—Central Motor Co., incorporated; Ben Blumberg, 410 W. Broad St.

La., New Orleans—Louisiana Coca Cola Bottling Co., A. B. Freeman, Sec., 109 N. Robertson St., reported, having plans completed by J. C. D'Armas, 8002 Hickory St., for garage and storage building at 1600 Iberville St.

Md., Baltimore—American Oil Co., American Bldg., will erect service stations at 2740 Lauretta Ave. and 2753 Edmondson Ave.; 1 story; cost \$12,000; bids in.

Md., Baltimore—North Western Land Co., Harry Silver, Sec., 215 N. Calvert St., will erect filling station 2100 block Edmondson Ave.

Md., Salisbury—Red Star Garage and Terminal Co., chartered; Henry E. Ehlers, Harvey R. Martz.

Md., Baltimore—Sherwood Bros., Baltimore Trust Bldg., plans filling station Reisters-town Rd. and Garrison Ave.; brick; 1 story.

Mo., Carthage—Mid-West Steel Products Corp., incorporated; Clyde W. Ingram, 711 Glenview Pl., Joplin; Morgan L. King, Carthage.

Mo., Mexico—Mexico Auto Parts, Inc., capital \$25,000, incorporated; Ed Baker, Route 7; Harry Richards, 126 W. Jackson St.

Mo., St. Louis—Blomberg-Kingsland Motor Co., incorporated; C. F. Blomberg, 819 Chestnut St.

Mo., St. Louis—Knibb Motor Service Co., incorporated; M. A. Knibb, 3710 Gravois St.

Mo., St. Louis—Wm. Mack Transfer Co., incorporated; Wm. J. McDonald, 9702 Midland St.

N. C., Angler—Morgan & Co. incorporated; Wm. Morgan, C. R. Carroll.

N. C., High Point—Fixall Sales and Body Co., capital \$25,000, incorporated; Edw. Leyton, 105 Edgeworth St.

S. C., Seneca—Eberhart Motor Co., Inc., chartered; A. M. Patterson.

Tex., Abilene—Abilene Motor Co., capital \$25,000, incorporated; Roy F. Townsend, W. H. Williams.

Tex., Memphis—Continental Oil Co., Ponca City, Okla., reported, construct filling station cor. Tenth and Main Sts.

Va., Richmond—Featherston Service Corp., capital \$25,000, incorporated; C. E. Featherstone, 419 W. Broad St.

W. Va., Huntington—Blair Motors, Inc., capital \$50,000, chartered; Frank J. Blair, Truslow and Virginia Sts., E., operate Packard-Huntington Co.

### Gas and Oil Enterprises

Alabama—United Pipe Line Corp., subsidiary of United Gas Corp., Esperson Bldg., Houston, completed purchase from Southern Natural Gas Corp., Watts Bldg., Birmingham, Ala., of natural gas pipe lines extending from main line of Southern Natural Gas Corp. at point north of Jackson, Miss., to Mobile, Ala., including branch lines to Bogalusa, La., Canton, Laurel, Hattiesburg, Gulfport and Biloxi, Miss.; purchase also includes extension from Mobile, Ala., to Pensacola, Fla., title to which will be transferred shortly; source of supply for these lines will be Jackson, Miss., gas field; long term contract entered into whereby gas from Monroe, Richland, East Carroll, La., fields will be transported by Southern Gas Corp. for these lines when it is necessary to supplement gas from Jackson field. 12-4

Ark., Waldron—Waldron Oil and Gas Co., incorporated; T. H. Taft.

Fla., Monticello—Pan-American Petroleum & Transport Corp., 120 Broadway, New York, reported, plans filling station.

Kentucky—Kentucky Natural Gas Co., 423 W. Third St., Owensboro, subsidiary of Missouri-Kansas Pipe Line Co., 10 S. La Salle St., Chicago, Ill., reported, soon lay line from Russellville to Nashville; mains will supply natural gas to Springfield, Gallatin, Goodlettsville and Nashville, Tenn.; rights of way secured Robertson and Sumner counties. 1-1-31

Ky., Louisville—Stoll Refining Oil Co., Wm. A. Stoll, Sec., 227 W. Main St., reported, applied for gas franchise; construct line from LaGrande fields in Hart County to Louisville refinery; also plans applying for franchise to Fiscal Courts of Nelson, Bullitt, Marion and Hart counties.

Ky., Louisville—Stoll Oil Refining Co., Wm. A. Stoll, S. C. and Treas., 227 W. Main St., advises if right of way is obtained for proposed pipe line from Legrande fields in Hart County, company will close contract with Frick-Reid Supply Co., 117 Sandusky St., Pittsburgh, Pa., to install this 4-in. line of screwed pipe to supply company's Louisville refinery with crude oil from new field in Hart County; will also probably connect up present line at Oil City, Ky., near Glasgow in Barren County with this new line.

Ky., Prestonsburg—Eureka Gas Co., capital \$20,000, incorporated; H. R. Kingsley, F. G. Crary.

Ky., Shelbyville—Crume-Hundley Oil Co., capital \$24,000, incorporated; John Crume, J. W. Hundley.

La., Opelousas—J. J. Koy, Engr., Houston, Tex., reported, surveying city streets for construction of gas system for United Gas Co., 1601 Commerce St., Houston, Tex.

Md., Baltimore—Board of Directors of Consolidated Gas Electric Light & Power Co. tentatively approved expenditure of \$8,300,000 during 1931, including approximately \$2,030,000 for gas facilities, \$5,540,000 for electric extensions and facilities, \$730,000 for development of steam heating system to serve downtown section, and other miscellaneous betterments; also probably begin constructing \$400,000 transmission line from Safe Harbor (Pa.) hydroelectric plant to Baltimore, this line to be interconnected with transmission lines from Holtwood, Pa.

Miss., Gulfport—Southwestern Gas & Electric Co. installing 11,000 ft. of 4-in. mains in northeast section of city.

Mo., Boonville—Fairplay Oil Co., incorporated; Harry Ruskin, Boonville; Simon Kanter, Sedalia.

Okl., Oklahoma City—Temple Production Co., capital \$100,000, incorporated; L. A. Tull, Norman.

Tenn., Jackson—West Tennessee Power & Gas Co., W. D. Kyser, Pres., reported, plans construction of \$2,500,000 natural gas pipe line from Memphis to Jackson; supply towns of Covington, Ripley and Brownsville, also plans extension to Humboldt; distribution of gas in charge of West Tennessee Power & Light Co., 108-110 E. Baltimore St., Jackson.

Texas—Atlantic Pipe Line Co., subsidiary of Atlantic Refining Co., 260 S. Broad St., Philadelphia, Pa., reported, acquired Liberty Pipe Line Co.'s Barber's Hill field including gathering lines for terminal at Cedar Bayou, marine equipment and shipside terminal at Texas City.

Tex., Dalhart—Dalhart Gas Co. increased capital \$65,000 to \$75,000.

Tex., Fort Worth—Midfield Oil Royalties of Texas, incorporated; W. B. Alley, 1412 Pennsylvania St.

Tex., Fort Worth—Barney Holland Oil Co., capital \$20,000, incorporated; Barney Holland, 2220 Pembroke2 Drive.

Tex., Luling—H. R. Smith, Inc., chartered; H. R. Smith, E. W. Sparger.

Tex., Tyler—Lide-Taylor Oil Co., capital \$100,000, incorporated; Lee Taylor, David M. Lide.

### Ice and Cold-Storage Plants

Ark., Texarkana—Independent Ice Co., capital \$21,000, incorporated; W. A. Saller, B. H. Giles.

Tex., Flatonia—Southern Produce Co., reported, construct additional cold storage rooms.

Tex., Laredo—Nathan L. Jones, Salina, Kans., reported, acquired Home Ice Co.

### Iron and Steel Plants

Ala., Gadsden—Regarding report that Gulf States Steel Co., Birmingham, would expend \$9,000,000 this year in construction work, L. E. Geohegan, Vice-Pres. and Gen. Mgr. of company, advises: "Have no program contemplated this year." 1-8

### Land Development

Ark., Little Rock—H. Grady Manning, Chmn. Baseball Committee, plans construction baseball park.

D. C., Washington—Wardman Mortgage & Discount Co., Harry Wardman, Pres., 1437 K St., N. W., reported, plans new development.

Fla., Cocon—Stewart Estates, Inc., incorporated; W. E. and L. I. Stewart.

Fla., Jacksonville—Markle-Renner Corp., incorporated; A. M. Richards, 720 Gilmore St.

Fla., Jacksonville—Spencer-Baltzell Corp., incorporated; G. W. Baltzell, 3317 Irene St. Ga., Brunswick—S. L. Calfee, Columbus, O., reported, acquired 650 acres along Altamaha Delta 10 miles south of city; plans reclaiming rice lands.

Md., Baltimore—Lakewood Co., 502 Garrett Bldg., incorporated; C. Jacob Youse, Clinton Wyatt.

Md., Salisbury—Lloyd Richardson and Harry A. Wilson, reported, plans development of Rich-Wil Park subdivision.

Mo., St. Louis—Wanstrath Realty Co., capital \$20,000, incorporated; George J. Wanstrath, 715 Chestnut St.

Mo., St. Louis—Jays Real Estate Co., capital \$25,000, incorporated; John S. Leahy, 4944 Lindell Blvd.

Mo., St. Louis—Wegean Realty Co., chartered; Wm. B. Kinealy, 8557 Goodfellow St.

Mo., St. Louis—Felberbaum Real Estate Co., incorporated; Harry Felberbaum, 722 Chestnut St.

Okl., Tulsa—Seidenbach Realty Corp., capital \$50,000, incorporated; Carl J. Seidenbach, 413 S. Main St.

Tenn., Murfreesboro—Hembree Land Co., incorporated; James R. Cotton, Charles F. Cox.

Tex., Beaumont—A. B. Sawyer, Pres., Jefferson Drug Co., Grand and Long Sts., reported, acquired and will develop 613 acres; will fence; constr. lake, lodge, etc.

Tex., Beaumont—Beaumont Land Co., capital \$25,000, incorporated; W. H. Burges, 699 Langham St.

Tex., Beeville—C. C. Diebel, Berclair, reported, acquired and will develop 540 acres farm land on State Highway, No. 12.

Tex., Harlingen—Texas Citrus Growers, Inc., chartered; H. M. Shaw, A. L. Stevens.

Tex., Houston—Double Realty Corp., incorporated; W. Stewart Boyle, Esperson Bldg.

Tex., Kaufman—Perkins Realty Co., incorporated; W. A. Bullard, Harry P. Perkins.

Tex., San Antonio—Comal Industrial Sites, Inc., chartered; J. C. Arthur, 230 E. Heuschele St.

Tex., San Marcos—San Marcos Development Co., incorporated; M. D. Chitwood, George E. Williams.

Va., Richmond—Sona Estate Corp., incorporated; Samuel C. Wood, 150 Broadway, New York City.

Va., Upperville—Atoka Estates, Inc., capital \$40,000, incorporated; J. D. Richards, Warrenton.

### Lumber Enterprises

Ark., West Memphis—Z. T. Bragg Lumber Co. will probably rebuild burned planing mill.

Fla., Jacksonville—Melrose Naval Stores Co., incorporated; S. J. Hall, 1361 Challen Ave.

Georgia—Leigh Banana Case Co., Savannah, reported, acquired from Savannah River Lumber Co., Port Wentworth, Savannah, 16,309 acres land and timber rights in Richmond and Burke counties in Georgia and Barnwell and Aiken counties in South Carolina.

N. C., Smithfield—Gillett Lumber Co., capital \$25,000, incorporated; R. C. Gillett, Irving J. Gillett.

South Carolina—See Georgia.

Tex., Dayton—Dayton Lumber Co., capital \$20,000, incorporated; J. D. Harris, Jr., Glenn Harris.

### Mining

Tex., Austin—Robinson Gravel Co., incorporated; Alonzo Robinson, 706 W. Seventh St.

Va., Burkesville—Pyramid Granite Corp., capital \$50,000, incorporated; Wm. Samuel Trimble, Third St. and Allegheny Ave., Philadelphia, Penn.

### Miscellaneous Construction

Arkansas—U. S. Engr. Office, P. O. Box 667, Vicksburg, Miss., let levee contracts: Section 1. Item 27, Kimbrough new levee, south bank Arkansas River, 400,000 cu. yd., W. E. Callahan Construction Co., Arcade Bldg., St. Louis, 24.75 cents per cu. yd.; Sec. 2. Item 27, 400,000 cu. yd., Noble & Crow, Memphis, Tenn., 24.47 cents per cu. yd. 1-1

Arkansas—U. S. Engr. Office, P. O. Box 667, Vicksburg, Miss., opens bids Jan. 22 for approx. 100,000 cu. yd. earthwork, south bank, Arkansas River, Item 39, new levee, 8.5 ft. average height.

La., New Orleans—Bd. of Levee Commrs., Orleans Levee Dist., 606 Common St., opens bids Feb. 6 for constructing conc. retaining wall and auxiliary work on shore of Lake Pontchartrain, beginning at point 1000 ft. east of center line of Industrial Canal and ending at point 5500 ft. east.

La., New Orleans—Bd. of Commrs. of Port of New Orleans, New Courthouse Bldg., opens bids Jan. 21 for furnishing and erecting steel framing for shed at Bienville St. wharf and alterations to fire walls.

La., Shreveport—Caddo Parish let contract to H. T. Hornsby, Shreveport, at 23.73 cents per cu. yd. for repairing Red River levees.

Miss., Biloxi—City, J. J. Kennedy, Mayor, may call special election bonds for building docks and dredging Biloxi Channel into Back Bay.

Miss., Vicksburg—U. S. Engr. Office, P. O. Box 667, has low bids for levees: Below Greenville Enlargement, Item 7, 240,000 cu. yd., Morrow & Gary, Vicksburg, 22.89 cents per cu. yd.; Ashbrook to Tarpley Enlargement, Item 6, Sec. 1, 372,724 cu. yd., Morrissey, Roach, Wooten, N. Memphis Savings Bank Bldg., Memphis, Tenn., 42.42 cents; Below Jefferson-Lincoln County Line, Arkansas River, 250,000 cu. yd., O. M. New, Little Rock, Ark., 19.95 cents; Kimbrough New Levee, Sec. 2, 400,000 cu. yd., Arkansas River, O. M. New, 24 cents. 1-1

Mo., Chamolis—U. S. Engr. Office, Postal Telegraph Bldg., Kansas City, has low bid from W. A. Ross Construction Co., 908 W. 25th St., Kansas City, at \$193,848, for 6585 lin. ft. standard pile clump dikes, Missouri River Chamolis Bend, East Bottom and Blue Mills bends. 1-1

Mo., Kansas City—Committee composed of Herbert M. Woolf, Chmn.; I. A. Adler, Sec.; Henry A. Auerbach, J. H. Bernheimer, Sieg. Harzfeld, I. Katz, Grant I. Rosenzweig and George M. Sittenfeld, having working plans drawn, work to start in spring on \$200,000 mausoleum, Rose Hill Cemetery; exterior walls of light colored marble, doors, windows, gates and grills of bronze, interior of marble and bronze; will include chapel, 475 crypts, 14 private memorial rooms and repository for urns; Greenbaum, Hardy & Schumacher, Archt., Scarritt Bldg.

N. C., Fayetteville—City, Bd. of Aldermen and Mayor, rescinded action on resurfacing, widening and repairing streets. 12-25

Tenn., Memphis—U. S. Engr. Office, McCall Bldg., let contract to Oscar O. Womble, 1016½ Center St., Little Rock, Ark., for 10,000 cu. yd. rip rap stone for levee work on Mississippi River, near here.

Tenn., Memphis—U. S. Engr. Office, McCall Bldg., will let contract Jan. 30 for \$100,000 project at spillway, Reelfoot Lake; will construct fish ladders of modern design.

Va., Yorktown—Bureau of Yards & Docks, Navy Dept., Washington, let contract to Merritt-Chapman & Scott Corp., Fidelity Bldg., Baltimore, Md., at \$21,100, for pier repairs. 12-18

### Miscellaneous Enterprises

Ala., Birmingham—Silver Suds Mfg. Co., Pound Bldg., Chattanooga, Tenn., leased building install machinery for manufacturing cleaning and polishing product.

Ala., Birmingham—Ingalls Iron Works Co., 720 Fourth Ave., S., reported, has contract for 150 tons steel for construction of steel tippie, and crusher at plant of Birmingham Slag Co., replacing burned building.

Ark., Fort Smith—Banfield Brothers Packing Co., 915 E. Apache St., Tulsa, Okla., reported, have plans ready by Feb. 1 for plant on Wheeler Ave.; tile walls; brick floors; install spray system cooler; capacity 100 hogs and 40 head of cattle daily; cost \$75,000; company will probably build by awarding sub-contracts with general building superintendent supervising construction; W. H. Tohtz, Repr. Bonnell-Tohtz Co., Archts., 1515 N. Grand St., St. Louis, Mo. 11-31

D. C., Washington—Fussell Young Ice Cream Co., 1610 Wisconsin Ave., N. W., reported, construct 1 story, brick ice cream plant addition; W. E. Mooney, Builder, 2539 Pa. Ave., N. W.; McCormick Co., Inc., Archts., 121 S. Negley St., Pittsburgh, Pa.

Ga., Atlanta—Scripto Mfg. Co., Jackson St., erecting pencil manufacturing plant, foundation and part of first floor finished; 3 story; 50x200 ft.; rein. conc.; conc. floors; Barrett, tar and gravel roof; cost of building \$60,000, of equipment, \$200,000; F. E. Varner & Co., 908 Standard Bldg., has general contract; J. M. Russell, Archt., 907 Standard Bldg.; G. G. Seofield, Constr. Engr., 907 Standard Bldg.; Clare & Co., Bona Allen Bldg., has contract for steam unit heating plant and plumbing; Hunter Hogue Electric Co., 399 Linden Ave., N. E., Atlanta, for electric wiring; Weekley Elevator Co., 447 Edgewood Ave., S. E., for 1 power and 1 hand elevators; Rockwood Sprinkler Co., 899 Bermina Ave., N. E., for sprinklers; Richmond Fireproof Door Co., Norris Bldg., for fire doors; P. E. Golan & Co., Spring St., for structural steel; Knoxville Iron Co., Lonsdale St., Knoxville, Tenn., for rein. steel; plan building additional wing about Jan. 1, 1932, to cost about same as present building under construction; will install machinery for pencil manufacturing. See Want Section—Machinery and Supplies. 12-4

Ga., Brunswick—Hercules Powder Co., Wilmington, Del., reported, plans improvements to plant at Brunswick; company advises not making any major improvements or increasing capacity of plant, merely taking care of normal depreciation.

Ky., Glasgow—Glasgow Daily News Publishing Co., incorporated; Tom P. Smith, Archie H. Carpenter.



Ky., Louisville—Nold Paint & Glass Co., capital \$30,000, incorporated; C. P. Smith, 505 W. St. Catherine St.

Ky., Louisville—Reiss-Dabney Cigar Co., capital \$25,000, incorporated; Edw. J. Reiss, Sr., 1834 Rutherford St.

Ky., Middlesboro—Middlesboro Coca Cola Bottling Co., capital \$50,000, incorporated; R. M. Barry, C. G. Barry.

Ky., Scottsville—Scottsville Tobacco Works, incorporated; N. D. Bryant, L. W. Johnson. La., Lake Charles—Calcasieu Construction Co., Inc., capital \$60,000, incorporated; Pascal Len Moore, Weber Bldg.

La., New Orleans—Electric Incubators, Inc., capital \$15,000, incorporated; Herman J. Estrade, 7226 Washington St.

La., New Orleans—Louisiana Coca Cola Co., 109 N. Robertson St., reported, plans improvements to plant 1600 Iberville St.; cost \$19,000.

La., Opelousas—Vincent Garbo, reported, plans erecting laundry on N. Main St.

Md., Baltimore—Baltimore-New York Steamship Co., Inc., organized by Fred Weiss, 605 Fallsview, to operate steamships twice a week between Baltimore and New York; Baltimore terminal to be former Clyde facilities at foot of York Street and New York terminal to be at Pier 31, North River; E. G. Boerner in charge of Baltimore operations; C. T. Hunter, New York agent.

Md., Baltimore—C. Water Tovell, Inc., 403 W. Monument St., incorporated; S. Wilmer Pleasants, Calvert Bldg.; general contracting and building.

Md., Baltimore—Baltimore Body Corp., temporary office address 2844 W. Garrison Ave., Albert W. Grimmer, Sec., 3309 Virginia Ave., will manufacture bus bodies, refrigeration truck bodies, etc.; several locations and equipment under consideration and will soon be selected. 1-8

Md., Baltimore—Baltimore Post, M. Levy, Sun Bldg., immediately remodel 6-story building, Pratt and Commerce Sts., recently purchased, to replace burned building; now making arrangements for purchase of equipment, practically all to be new; building and alterations to cost approx. \$25,000, new machinery \$150,000; Howell & Thomas, Architects, 3868 Carnegie St., Cleveland, Ohio.

Md., Cordova—Cordova Warehousing Co., Inc., chartered; Wm. Earle Withgott, W. Herman Hopkins.

Md., Hagerstown—Farmers Protective Assn., capital \$100,000, incorporated; Lewis F. Durben, R. F. D. No. 1; plans creamery.

Miss., Jackson—Jackson Stone Co., incorporated; Joseph Barras, 711 N. Congress St.

Miss., Tupelo—Tupelo Garment Co., reported, plans enlargement of plant.

Mo., Kansas City—American Home Furnishing Co., incorporated; R. Marsden, Davidson Bldg.

Mo., Kansas City—Ostermann Products Co., incorporated; C. A. Ostermann, 6 E. 68th St.; manufacture soft drinks.

Mo., St. Louis—Kommick Process Brick Co., 3970 Lafayette St.; incorporated; Albert Seelig, 3970 Lafayette St.; manufacture sand lime brick.

Mo., St. Louis—National Tank & Equipment Co., J. W. McAfee, Pres., reported, become associated with Missouri Boiler and Sheet Iron Works, both 908 S. Twenty-third St., for manufacture of standardized steel storage tanks, from 120 gal. capacity to 20,000 gal. capacity. 12-26

Mo., St. Louis—Concrete Bridge & Paving Co., capital \$25,000, incorporated; Harold K. Pellett, Planters Bldg.; general engineering.

Mo., St. Louis—Baerveldt & Honig Construction Co., incorporated; Harry L. Baerveldt, 6902 Robbins.

Mo., St. Louis—Rowland Mortuary Service, Inc., chartered; Claude K. Rowland, Boatman's Bank Bldg.

Mo., St. Louis—Chandeysson Electric Co., 4092 Bingham, reported construct 1 story factory, 4092 Bingham; 82x200 ft.; gypsum roof; cost \$20,000; Oymont & Heinricke, Bldrs. and Archts., 721 Wainwright Bldg.

N. C., Raleigh—John Askew Co., Inc., capital \$50,000, incorporated; John Askew, 501 Hillsboro St.; paint material.

Okla., Bristow—Santa Anna Glass Co., Santa Anna, Tex., reported, acquired plant of Magnolia Bottle Co., Bristow, Okla., plans removal to Santa Anna.

Okla., Claremore—E. G. Healy, Webb City, Mo., reported, move shoe plant to Claremore.

Okla., Enid—D. C. Bass & Sons Construction Co., capital \$25,000, incorporated; H. B. and D. C. Bass.

Tenn., Chattanooga—Brown Fence Co., capital \$40,000, incorporated; T. W. Brown, Mission Ridge.

Tex., Abilene—Abilene Laundry Co., capital \$200,000, incorporated; C. W. Clark, H. P. Simmons.

Tex., Dallas—Roth Sign Co., incorporated; Robt. J. Roth, 1817 Peabody St.

Tex., Dallas—Diamond Paint & Wall Paper Co., 1001 Roso St., increased capital \$50,000 to \$75,000.

Tex., Coleman—Santa Anna Glass Co., Santa Anna, reported, plans construction of branch plant at Coleman; cost \$85,000.

Tex., Dallas—Wood Treating Corp., incorporated; Adolphus Reichenstein, 6003 Bryan Parkway.

Tex., Dallas—A. D. Hawley Construction Co., incorporated; A. D. Hawley, 5525 Ridgedale St.

Tex., Fort Worth—Collins-Devoust Paint Mfg. Co., incorporated; F. H. Collins, 1103 Samuels St.

Tex., Houston—Ideal Laundry, capital \$50,000, incorporated; R. G. Cox, 421 W. Bell St.

Tex., Houston—Seelhorst & Weinberg, reported, plans erection of abattoir 2 miles west of Eureka between Katy and Hempstead Rds.

Tex., Presidio—See Railway Shops and Terminals.

Tex., San Antonio—Comal Machinery Co., capital \$20,000, incorporated; Charles Dabose, 335 W. Elmsler St.

Tex., San Antonio—Central Terminal & Forwarding Co., incorporated; Orville N. Leary, 106 S. Comal St.

Va., Lynchburg—Bland Terry Shoe Corp., capital \$100,000, incorporated; Bland Terry, Argonne Drive, Atlanta, Ga.

Va., Norfolk—Carter, the Cleaner, incorporated; A. Diamondstein, 515 Maryland Ave.

Va., Richmond—C. P. Fritzsche & Co., Inc., capital \$50,000, incorporated; C. P. Fritzsche, 3500 Grove Ave., manufacture glass.

W. Va., Charleston—American Fork and Hoe Co., Kelly Axe and Tool Works, reported, establish shovel manufacturing plant; plans made for construction of additional buildings at Kelly Axe and Tool Works; machinery ordered.

## Motor Bus Lines and Terminals

Ala., Florence—John B. McKelvy, reported, establish inter-state freight line; operate between Muscle Shoals district and Nashville.

Arkansas—Arkansas Railroad Comsn., Little Rock, reported, granted following licenses: M. C. McLeod, Smithville, for passenger line over Highway No. 11, Batesville, Cave City, Powhatan to Hoxie; Ozark Taxi and Transfer Co., to operate taxicab transfer line at Fayetteville; Mansfield Transfer Co., for transfer line at Mansfield; Dedmon & Nolen, Mansfield, to operate transfer system at Mansfield; postponed application of Floyd Truck Line, Helena, to operate from Helena to Memphis, via Holly Grove, Clarendon, Brinkley and Cotton Plant.

Mo., Joplin—Tri-State Motor Transport, Inc., capital \$16,000, incorporated; D. V. Merrick, 409 W. 15th St.

Mo., St. Louis—Grass Express Co., 7 S. Fourth St., incorporated; Oliver R. Grass, Wm. P. Lautenschlager.

S. C., Spartanburg—Carolina Scenic Bus Lines, McDuff Turner, Pres., 669 Poplar St., reported, acquired Red Dot Lines; extend service to Augusta, Ga., from Hendersonville via Spartanburg and from Hendersonville to Columbia via Tryon, Spartanburg and Union.

Va., Norfolk—Virginia Electric & Power Co., reported, plans eliminating street cars in Ghent section and replacing with busses.

## Railways

Ky., Lexington—Southern Ry., B. Herman, Ch. Engr., Washington, D. C., may construct line, Greendale to site of proposed Federal narcotic hospital farm.

Md., Baltimore—Pennsylvania R. R., C. D. Young, Gen. Pur. Agt., Philadelphia, Pa., ordered 200,000 tons steel for 1931 from United States Steel Corp., 71 Broadway, New York. 100,000 tons divided between Carnegie Steel Co., Carnegie Bldg., Pittsburgh, Pa., 60,000 tons and Illinois Steel Co., 208 S. La Salle St., Chicago, Ill., 40,000 tons; 88,000 tons of balance awarded Bethlehem Steel Co., Bethlehem, Pa.; 12,000 tons to Inland Steel Co., 33 S. Dearborn St., Chicago, Ill.; steel rail to cost \$8,500,000, while additional expenditures for attachments including frogs and switches, tie plates, joint bars, bolts and spikes will raise total of rail and rail-laying materials, exclusive of ties to over \$15,000,000.

Texas—Atchison, Topeka & Santa Fe Ry., W. B. Storey, Pres., Chicago, Ill., approved capital improvement budget of \$13,800,000 for 1931; principal items include \$1,400,000 for increased weight of rail and track material, \$1,000,000 for bridges, trestles and culverts, \$730,000 for elimination of grade crossings, \$2,100,000 for additional yard tracks, \$1,200,000 for signals and interlocking plant, \$925,000 for station and office buildings and \$800,000 for water stations and equipment.

Tex., Cameron—Gulf, Colorado & Santa Fe Ry. Co., F. Merritt, Ch. Engr., Galveston, plans drainage work between Cameron and Somerville preparatory to rock ballasting in 1932.

Tex., Houston—Harris County Navigation Comsn., soon open bids for rehabilitating North Side Railroad on Ship Channel for Port Terminal R. R. Assn., costing \$20,000 to \$30,000.

## Railway Shops and Terminals

Fla., Pensacola—Louisville & Nashville R. R. Co., W. R. Coler, Pres., Louisville, Ky., advising regarding report \$8,000,000 would be expended here for terminals, that there is no foundation for statement.

Texas—See Railways.

Tex., Galveston—Burlington-Rock Island R. R. Co., John A. Hulen, Pres., Houston, advises in connection with rehabilitation program on Galveston Terminal Ry. Co., present plans call for renewal of 14 mi. of yard tracks, necessary physical connections with Texas & New Orleans R. R. Co., and repairs to freight station; cost \$150,000; provisions made for some expansion of this program in the way of additional yard tracks as needed, probably 3 or 4 mi., costing approx. \$30,000; W. S. Broom, Ch. Engr., Houston, in charge of engineering work. 12-25

Tex., Presidio—Atchison, Topeka & Santa Fe Ry., G. W. Harris, Ch. Engr., Chicago, Ill., plans establishing plant for creosoting railroad ties.

Va., Richmond—Richmond, Fredericksburg and Potomac Railway, Richmond, Va., reported, applied to State Corporation Comsn., Richmond, for permission to operate freight bus line for main route Richmond to Washington; hearing Jan. 21.

## Roads, Streets and Paving

In connection with LAND DEVELOPMENT large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

### Proposed Construction

ALABAMA—State Highway Comsn., Woolsey Fennell, Highway Director, Montgomery, has low bids for road and 4 bridges in following counties:

Walker—3 1/3 mi. paving, Bankhead Highway, Nixon & Phillips, 917 Sixth Ave., North, Birmingham, \$76,652; bridge on same project, H. A. Brown, Jasper, \$6893; bridge near Jasper, S. P. Cook, Fairmont, Ga., \$10,933.

Jefferson—Overhead crossing between Birmingham and Harpersville, S. P. Cook, \$8868; bridge over Warrior River between Birmingham and Jasper, Rust Engineering Co., Woodward Bldg., Birmingham, \$59,812. 12-11

Ala., Birmingham—City, A. J. Hawkins, City Engr., passed ordinance for improving Ave. O. Ensley and for establishing grade; also for improving Ave. V, Ensley establishing grade.

ARKANSAS—State Highway Comsn., Dwight H. Blackwood, Chmn., Little Rock, opens bids Jan. 21 (new date) for 9 roads (conc. paving unless otherwise designated) and 2 bridges, involving \$1,500,000, in following counties:

Ouachita—517 lin. ft. treated timber pile bent bridges (2) with conc. decks over north fork Two Bayou, Camden-Rosston road, State Highway 4, Sec. 8, Job No. 7155, 3088 lin. ft. piling, 43,816 lb. rein. steel;

Lawrence—5.5 mi. grading, draining, Hoxie-Jonesboro road, F. A. 255-D, State Highway 91, Sec. 1, No. 10154, 89,090 cu. yd. excavation, 16,737 lb. rein. steel;

St. Francis—6 mi., Forrest City-West Memphis road, F. A. 258-A, State Highway 70, Sec. 19, No. 11015, 6230 cu. yd. excavation, 73,253 sq. yd. grading, subgrade and shoulders, 73,504 sq. yd. paving, 328,955 lb. rein. steel for pavement, 12,246 lb. rein. steel; 8 mi., Forrest City-West Memphis road, F. A. 258-A and D, State Highway 70, Sec. 19, No. 11016, 8236 cu. yd. excavation, 96,480 sq. yd. grading, subgrade and shoulders, 96,576 sq. yd. paving, 434,895 lb. rein. steel for pavement, 4710 lb. rein. steel;



**Hempstead**—12.168 mi., Fulton-Hope road, F. A. 263-A, State Highway 26, Sec. 2, No. 3116, 12,168 cu. yd. earth excavation, 128,514 sq. yd. grading, subgrade and shoulders, 128,858 conc. paving, 312,935 lb. rein. steel for pavement, 12,464 lb. rein. steel.

**Clark**—4.5 mi., Gurdon-Arkadelphia road, F. A. 265-A, State Highway 51, Sec. 1, No. 3121, 4615 cu. yd. excavation, 49,633 sq. yd. grading, subgrade and shoulders, 49,676 sq. yd. conc. paving, 46,895 lb. rein. steel for pavement, 1558 lb. rein. steel; 6 mi. Little Missouri River-Gurdon road, F. A. 265-C, State Highway 51, Sec. 1, No. 3118, 6212 cu. yd. excavation, 65,612 sq. yd. grading, subgrade and shoulders, 65,655 sq. yd. paving, 148,005 lb. rein. steel for pavement, 1558 lb. rein. steel.

**Lonoke**—4 mi., Pulaski County Line-Cabot road, F. A. 211-C and 114 reopened-A, State Highway 67, Sec. 11, No. 6104, 3800 cu. yd. excavation, 39,468 sq. yd. grading, subgrade and shoulders, 39,741 sq. yd. paving, 177,603 lb. rein. steel for pavement, 9046 lb. rein. steel; 6 mi., Cabot-Ward road, F. A. 133 reopened-B and 114 reopened-A, State Highway 67, Sec. 11, No. 6105, 5700 cu. yd. excavation, 60,999 sq. yd. grading, subgrade and shoulders, 61,048 sq. yd. paving, 274,495 lb. rein. steel for pavement. 1-1

**Arkansas**—State Highway Comsn., C. S. Christian, Engr., Little Rock, opens bids Jan. 21 for conc. paving, involving \$2,000,000; let contracts in February involving \$2,500,000.

**Fla., Lakeland**—City, J. F. Council, City Mgr., plans paving S. Florida Ave., vit. brick conc. curb; \$12,000; I. S. Tillotson, City Engr.

**Fla., Miami Beach**—City, Ed. R. Neff, City Engr., soon call for bids for repaving Euclid Ave., 40 ft., bituminous, conc. curb and gutter.

**Georgia**—State Highway Comsn., J. W. Barnett, Chmn., Atlanta, plans paving, Athens to Macon via Madison and Eatonton, in 1931.

**Ky., Lexington**—Fayette County, Chester D. Adams, County Judge, plans expending \$197,500 for road work in 1931; W. H. Edwards County Engr.

**Ky., Louisville**—City, Streets Committee of Bd. of Aldermen, considering building 45 streets.

**La., New Orleans**—City, Bryan Vallas, City Engr., authorized to start on plans for paving 6½ mi.

**LOUISIANA**—State Highway Comsn., O. K. Allen, Chmn., Baton Rouge, has low bids totaling approx. \$6,830,781 for 29 roads (conc. unless otherwise designated) and 6 bridges in following parishes:

**LaSalle-Winn**—11.1 mi., Tullos-Trout Highway, Lacy Paving Co., Burt Bldg., Dallas, Tex., \$355,580;

**Allen**—14 mi., Oberlin-Oakdale Highway, N. V. Duncan, Chicago, Ill., \$344,591;

**Avoyelles**—12 mi., Marksville Northeast Highway, Barber Bros., Baton Rouge, \$292,906; bridge over Red River, Moncla, Bateman Construction Co., Nashville, \$297,566;

**Claiborne**—12.7 mi., Homer-Haynesville, Nattin & Martishaw, Homer, \$265,686;

**Evangeline**—7.3 mi., Ville Platte-Reddell, Barber Bros., \$153,962;

**Iberia-St. Martin**—11 mi., St. Martin-New Iberia, N. V. Duncan, \$236,053;

**Jackson**—6.8 mi., Hodge-Quitman, Roberts Paving Co., Salisbury, Md., \$161,672;

**LaFourche**—8.1 mi., Thibodaux-Raceland, Barber Bros., \$182,466;

**Livingston**—3.1 mi., Denham Springs-Baton Rouge, Noonan Construction Co., E. Lloyd St., Pensacola, Fla., \$76,509;

**Morehouse-Ouachita**—10.8 mi., Bastrop-Monroe, Glassell-Cochran, Shreveport, \$187,640;

**Ouachita**—11.6 mi., Monroe-Bastrop, Forcum-James Co., Dyersburg, Tenn., \$335,700;

**Tangipahoa**—Amite-Tangipahoa, Lawrence Construction Co., Standard Life Bldg., Jackson, Miss., \$297,417; bridge over Tangipahoa River, Ed Pettus, Montgomery, \$11,222;

**Vermilion**—11.6 mi., Kaplan-Abbeville, Meyer & Greenwald Construction Co., Bernhardt Bldg., Monroe, \$236,210;

**West Baton Rouge-Pointe Coupee**—20.3 mi., embankment and conc., Port Allen-Livonia, Forcum-James Co., \$909,855;

**Winn-Jackson**—17 mi., Jonesboro-Tannehill, A. C. Campbell, Winnfield, \$400,753;

**Red River**—bridge over Red River, Couchatta, Kansas City Bridge Co., 1012 Baltimore Ave., Kansas City, Mo., \$412,277;

**East Baton Rouge-Livingston**—bridge over Amite River between Baton Rouge and Denham Springs, Thomas H. Brockman, Canal Bank Bldg., New Orleans, \$174,862;

**St. Tammany**—bridges, Covington-Bogalusa Highway, S. P. Cook, Fairmount, Ga., \$85,296;

**West Carroll-Morehouse**—bridge over Bouef River and 6 small bridges on Oak Grove-Mer Route Highways, J. L. Ham & Co., Minden, \$69,378;

**Beauregard**—20 mi. asphaltic surface, De Ridder Texas Highway, N. P. Turner, Marshall, Tex., \$154,950;

**Tangipahoa-St. Helena**—15 mi. asphalt surface, Fluker-Clinton Highway, Nelson Bros., Columbia Mutual Tower, Memphis, Tenn., \$77,474;

**Union**—12 mi. asphalt surface, Farmerville-Marion Highway, Flenniken Construction Co., American Bank Bldg., Shreveport, \$31,612; paving, Route 11 and 15 through Farmerville, Glassell-Cochran, Shreveport, \$296,726;

**Vernon**—20 mi. asphalt surface, Leesville-Simpson Highway, R. B. Tyler Co., Inc., 1446 Levering St., Louisville, Ky., \$132,680; 3.2 mi. gravel, Anacoco-Kurthwood, J. H. Reeves, Many, \$33,292;

**Sabine**—7.9 mi. gravel, Many-Texas Highway, Britt & Delaughter, Broughton, Ark., \$28,373;

**Franklin**—3.9 mi. gravel, Rush Store-Killiant Landing, W. N. McReynolds, Monroe, \$21,014;

**Richland**—8 mi. grading, draining, Start-Columbia, W. N. McReynolds, \$15,998.

**Terrebonne**—3.2 mi., Gibson-Bayou Boeuf, Hoffman & Jones, Madisonville, \$41,440;

**Caldwell, LaSalle and Catahoula**—11.4 mi., Grayson-Rosefield, J. W. McKeithen, Grayson, \$35,621;

**Bienville**—3.7 mi., Hope-Sailles, W. G. Williams, Arcadia, \$9948;

**Plaquemines**—6 mi. shell, Fort Jackson-Venice, August A. Buras, 3128 DeSoto St., New Orleans, \$68,641;

**LaFourche**—2.4 mi., Des Allemands-Raceland, Huth Construction Co., Inc., Franklin, \$45,752; 3 mi., Houma-Raceland cut-off, McWilliams Dredging Co., Canal Bank Bldg., New Orleans, \$31,045. 12-18

**Louisiana**—State Highway Comsn., O. K. Allen, Chmn., withdrew request for bids for 26 mi. asphaltic conc., Jena-Harrisonburgh Highway, LaSalle and Catahoula Parishes, bids to be taken later. 12-18

**Maryland**—State Roads Comsn., L. H. Steuart, Sec., Baltimore, opens bids Jan. 20 for 1.55 mi. conc., end of Cont. Wi-11 near Maryland Springs, toward Vienna, Wicomico County, Cont. Wi-55-12, F. A. 221A.

**Md., Baltimore**—City, Nathan L. Smith, Highways Engr., opens bids Jan. 21 for Cont. No. 571, sheet asphalt paving, and Cont. 572, cement conc. paving.

**Md., Baltimore**—City, Nathan L. Smith, has low bid from Baltimore Asphalt Block & Tile Co., 1320 N. Monroe St., at \$28,820, sheet asphalt paving, Cont. 568. 1-1

**Miss., Meridian**—City, W. H. Owen, Mayor, expend approx. \$250,000 in 1931 for street paving.

**Mississippi**—State Highway Comsn., Jackson, expend \$150,000 building road beds and bridges on new route of Highway No. 51 as soon as plans can be completed and work started.

**Mississippi**—State Highway Comsn., Jackson, opens bids Jan. 22 11,074 mi. conc., Laurel-Hattiesburg road, Jones County, F. A. 70-C, 94,240 cu. yd. excavation, 66,661 cu. yd. borrow excavation, 88,869 lb. rein. steel; bridge over 20 ft., 5411 lb. rein. steel, 52,500 lb. struc. steel, 1056 lin. ft. untreated foundation piling, 40 cu. yd. rip rap.

**Miss., Walthall**—Highway Comms. of Separate Road Dist. No. A, Webster County, Office of Chancery Clk., opens bids Feb. 2 for Proj. 19, Mathiston northwest of Columbus and Greenville R. R., 3.55 mi., 3650 cu. yd. excavation, 16,500 cu. yd. borrow excavation.

**MISSOURI**—State Highway Comsn., T. H. Cutler, Ch. Engr., Jefferson City, opens bids Jan. 24 for 47 roads and 34 bridges in following counties:

**Atchison**—1.056, 4.809, 1.655, 4.760, 4.404 mi. 10-ft. conc., Iowa Line-Rockport, 32,896 cu. yd. excavation, 97,664 sq. yd. paving, 309A, 309B, 309C, 309D, 309E;

**Gentry**—3.610, 2.509 mi. gravel, Evona-McFall, 9990 cu. yd. excavation, 3858 cu. yd. paving, SA-2, SA-3;

**Adair**—4.000, 4.506 mi. 30-ft. graded earth, Green Castle-Novinger, 256,512 cu. yd. excavation, 171,020 lb. struc. steel, I-beam and truss bridge over Spring Creek, I-beam bridge over Davis Creek, SA-2, SA-3;

**Sullivan**—1.839 mi. gravel, Green Castle-Novinger, 21,936 cu. yd. excavation, 2442 cu. yd. paving, 340B;

**Lincoln**—4.308 mi. gravel, Ellsberry-Hamburg Landing, 1237 cu. yd. excavation, 13,900 lb. struc. steel, 4048 cu. yd. paving, I-beam bridge over Kings Lake Drainage Ditch, SP-1;

**Pike**—1.300 mi. gravel, Ellsberry-Hamburg Landing, 13,178 cu. yd. excavation, 1224 cu. yd. paving, SP-2;

**LaFayette**—7.995 mi. 10-ft. conc., Waverly-Marshall, 2993 cu. yd. excavation, 11,708 sq. yd. paving, 278A;

**Saline**—4.066, 4.370, 3.598, 3.971 mi. 10-ft. conc., Waverly-Marshall, 24,644 cu. yd. excavation, 107,618 sq. yd. paving, 27SB, 27SC, 27SD, 16B;

**Ray**—4.492, 4.163, 4.288, 4.161 mi. gravel, 291,016 cu. yd. excavation, 192,650 lb. struc. steel, 21,364 cu. yd. paving, 3 I-beam bridges over Middle Fork of Crooked River, branch and West Branch of Crooked River, 335A, 335B, 335C, 335D;

**Boone**—1.610 mi. 24-ft. graded earth, Fayette-Harrisburg, 7978 cu. yd. excavation, SC-6;

**Howard**—1.989, 1.599 mi. 24-ft. graded earth, Fayette-Harrisburg, 25,236 cu. yd. excavation, SC-3, SC-5;

**Camden**—3.222, 3.576 mi. gravel, Route 5-Montreal, 24,476 cu. yd. excavation, 4450 cu. yd. paving, ST-1, ST-3;

**Monteau**—3.642, 2.928 mi. gravel, Tipton-Fortuna, 77,818 cu. yd. excavation, 8079 cu. yd. paving, 3 bridges over Brewery Branch, Willow Fork Creek, Schmidt Branch, 5-51;

**Webster**—3.233 mi. gravel and 20-ft. conc., Rogersville-Fordland, 30,935 cu. yd. excavation, 3884 cu. yd. gravel, 2315 sq. yd. conc. paving, 60-32;

**Carter**—3.731, 3.132, 0.974 mi. gravel, Cirtes Corner-Ripley, 86,893 cu. yd. excavation, 7662 cu. yd., 2 bridges, 21-42, 21-43, 21-44A;

**Douglas**—4.180, 3.806 mi. gravel, Ava-Howell County, 77,791 cu. yd. excavation, 7427 cu. yd. paving, 14-27, 14-28;

**Reynolds**—2.294 mi. 20-ft. graded earth, Centerville-Black, 20,766 cu. yd. excavation, bridge over branch, SA-1;

**Bollinger**—3.581, 3.820 mi. gravel, Salma-Stoddard County, 97,252 cu. yd. excavation, 42,010 lb. struc. steel, 6945 cu. yd. paving, bridge over branch, 2 bridges over drainage ditches, 51-27, 51-28;

**Stoddard**—1.670 mi. gravel, Zalma-Puxico, 37,808 cu. yd. excavation, 16,000 lb. struc. steel, 1562 cu. yd. paving, bridge over drainage ditch, 51-29; 4.106, 4.239 mi. gravel, Puxico-Route 60, 97,236 cu. yd. excavation, 7886 cu. yd. paving;

**Dunklin**—2.977 mi. gravel, St. Francis River east, 4821 cu. yd. excavation, 12,050 lb. struc. steel, 2486 cu. yd. paving, bridge over drainage ditch, Ref. 13; 0.224 mi. gravel and 9-ft. conc., Kennett-Cardwell, 1805 cu. yd. excavation, 154,900 lb. struc. steel, 1101 sq. yd. gravel, 8 bridges over ditches and I-beam bridge over Seneca Slough, 25-52;

**Scott**—1.066, 1.984 mi. gravel, Route SD-Mississippi County, 15,013 cu. yd. excavation, 12,006 cu. yd. paving, bridge with 70-ft. retaining wall, 3 bridges over creeks, bridge over branch, 67-9, 67-10.

**OKLAHOMA**—State Highway Comsn., Lew Wentz, Chmn., Oklahoma City, has low bids for 9 roads (grading and draining unless otherwise designated) and 23 bridges, aggregating approx. \$616,215, in following counties:

**Muskogee**—11.2 mi., U. S. 64, J. W. Taylor, Konawa, \$40,361; conc. girder bridge, between Warner and Webber Falls, E. G. Fike & Co., 2531 E. Independence St., Tulsa, \$17,809; 5 bridges, U. S. 62, George M. Brown, McAlester, \$37,332; 6.87 mi., Ft. Gibson east, Green Construction Co., Oklahoma City, \$31,308;

**Rogers**—7.05 mi., 3 mi. east of Inola extending west, J. E. Smith & Sons, Noble, \$34,140; 2 girder bridges, State Highway 11, E. S. Alderman, 1605 W. 39th St., Oklahoma City, \$9488;

**Caddo**—7.8 mi., State Highway 8, S. E. Gray, 2024 Chambers St., Muskogee, \$32,712; 2 bridges, State Highway 8, J. P. Foty, Bart Bldg., Dallas, Tex., \$24,308;

**Hughes**—7.7 mi. grading, draining, U. S. 75, Green Construction Co., Oklahoma City, \$47,212; conc. girder bridge, U. S. 75, L. B. Bybee, Oklahoma City, \$6534;

**Kiowa**—6.9 mi., State Highway 9, T. C. Ottenger, Hinton, \$37,668; 3 bridges between Mountain View and Caddo County line, Boardman Co., Maple and Hawk Sts., Oklahoma City, \$58,943;

**Haskell**—erecting steel on 2 bridges, State Highway 43, Southwestern Bridge & Culvert Co., Herskowitz Bldg., Oklahoma City, \$5903;

**Pottawatomie-Lincoln**—10 mi., State Highway 18, James Connelly, Magnolia Bldg., Oklahoma City, \$55,561; 3 bridges, State Highway 18, Roberts & Fisher, Norman, \$24,688;

**Texas**—reinforcing embankment of Arkansas River, Braden Bend, List Construction Co., Rwy. Exch. Bldg., Kansas City, Mo., \$102,600;

**Okla., Oklahoma City**—City, E. M. Fry, City Mgr., making surveys to determine location for new street running north and south just east of Santa Fe tracks.

**Okla., Tulsa**—City, H. A. Parker, City Engr., plans calling for bids for paving E. 13th St.; surveys under way for remodeling present W. Third St. viaduct; has preliminary plans for overpass at south end of West Tulsa bridge, S. Quanah Ave.; probably pave Boulder Park Dr. in 1931, providing chief approach and outlet to and from new 21st

St. bridge; widen pavement on W. Seventh St., immediate survey planned; pave E. First St.; widen E. Second St., Madison to Lewis; call for bids at once for paving E. 13th St., Delaware to Harvard; plans widening S. Utica Ave., 26 to 36 ft., 15th to 19th; estimates out to pave Delaware Ave., 11th to 18th St. and Fourth Pl. to Fifth St.

**TENNESSEE**—State Dept. of Highways and Public Works, T. E. McEwen, Engr., Nashville, opens bids Jan. 30 for 10 roads (grading, draining unless otherwise designated) and 14 bridges in following counties:

**Davidson**—8.43 mi., between Nashville city limits and Highway 100, including bridge over 20-ft. span;

**Putnam-Cumberland**—10.62 mi. paving, Highway 42, Monterey to Stanton;

**Cumberland**—9.50 mi. paving, Highway 42, Station 431-48 to Crossville;

**Lawrence**—7.32 mi., Highway 6;

**Polk**—6.80 mi., Rock Creek to Duckton, box type bridge over 20-ft. span; 2 bridges over 20-ft. spans to be let separately;

**Montgomery**—4.08 mi., Highway 13, Clarks-ville to Bethlehem, conc. and steel bridge over Red River;

**Hamblen**—5.44 mi., Highway 32, Morris-town to Jefferson County line;

**Sevier**—4.86 mi., Highway 35, junction with Route No. 71 to Station 456-44, 3 conc. bridges; 3.72 mi., Highway 35, Station 456-44 to 655-06 near Sevierville, 3 conc. bridges;

**Wilson**—6.09 mi., Highway 26, Watertown to Station 663-75 toward Lebanon;

**Henderson**—5.90 mi., Highway 22, Station 321-50 to Carroll County line, 4 bridges. 1-8

Tenn., Woodbury—Cannon County, Charlie Mason, Judge, voted bonds for acquiring rights of way for highway, Woodbury to Coffee County line.

Tex., Corsicana—Navarro County expend approx. \$200,000 in 1931 finishing Highway 22, Three-Way filling station to district line near Eureka; build 9 mi. 9-ft. lateral, Corsicana to Ward bridge on Corsicana-Waco road and a tie-in, North Boston St. to Highway 75.

Tex., Dallas—Dallas County Commrs. Court opens bids Feb. 9 for paving, Industrial Blvd., Corinth to Cadiz St., \$45,000; also for asphalt paving, Corinth St. viaduct and road between west end of that structure and Eight St., Oak Cliff, \$25,000.

Tex., Houston—City, J. M. Nagle, City Engr., plans opening and paving White Oak Dr., Houston Ave. at Wrightwood into Milam at H. and T. C. R. R.; plans for completing fill between Kessler and Crockett ordered rushed, section to be surfaced, probably with bituminous paving, bids to be asked shortly; pave W. Gray, Taft to Valentine, right-of-way acquired and plans complete; extend Lawndale Ave. into Harrisburg Blvd. via Myrtle St.; pave Alameda Road, Brays Bayou south to city limit.

Texas—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, may build road to connect new Kerr County oil field with state highway.

Tex., Houston—City Council authorized calling for bids for paving Graustark Ave., 27 ft.; J. M. Nagle, City Engr.

**VIRGINIA**—State Dept. of Highways, C. S. Mullen, Ch. Engr., Richmond, opens bids Jan. 27 for 14 roads and 7 bridges, costing approx. \$1,250,000, in following counties:

**Chesterfield**—12 mi., 11-ft. conc., Richmond-Petersburg Turnpike, Bellwood crossing to Petersburg, Route 31;

**Arlington**—47-ft. bridge over Four-Mile Run near Alexandria;

**King George**—5 mi. gravel, Route 37, 4 mi. east of Muddy Creek, .1 mi. west;

**Gloucester**—5 mi. grading, draining, Route 30, 4 mi. east of Dragon Run to .1 mi. west, including bridge over Dragon Run;

**Notaway**—2 mi. soil, Routes 10 and 20, near Burkeville;

**Stafford**—2 mi. gravel, Route 37, 2 mi. east of Fredericksburg to Fredericksburg, including bridge over Claiborne Run;

**Henry**—10 mi. grading, draining, Route 12, Pittsylvania County line to Martinsville, including bridge over Leatherwood Creek;

**Amherst**—1 mi. macad., Route 18, Lynchburg north;

**Orange**—5.6 mi. macad., Route 32, .2 mi. south of Orange toward Gordonsville;

**Augusta**—2 mi. macad., Route 39, .3 mi. west of Christian's Creek to 1 mi. east of Staunton;

**Prince Edward**—8 mi. soil, Route 20, 1.2 mi. east of Greenway to 1 mi. east of Charlotte;

**Essex**—9 mi. grading, draining, Route 38, being approaches to bridge over Piscataway Creek;

**Northumberland**—67-ft. bridge over Hampton Hall Creek, 2 mi. from King Sale wharf;

**Nansemond**—7.6 mi. grading, draining, Bowers Hill to Magnolia;

**Rockbridge**—6.5 mi., Route 33, Rockbridge County line to Buchanan, including bridges over Purgatory and Cedar Creeks;

**Smyth**—2.6 mi. macad., Route 10, 2.6 mi. east of Washington County line to Chilhowie.

Va., Mount Vernon—Dept. of Agriculture, Washington, plans taking bids in 2 or 3 weeks for 15½ mi. paving Mount Vernon Memorial Highway.

**WEST VIRGINIA**—State Road Comsn., Geo. E. White, Sec., Charleston, opens bids Jan. 27 for 10 road projects, involving approx. \$694,000, in following counties:

**Hancock**—5 mi. grading, draining, New Cumberland-North road; 1.5 mi. grading, conc. paving, Chester Newell road;

**Wetzel**—6 mi. grading, paving, New Martinsville-North road;

**Fayette**—6.7 mi. stone base retreat, Look-out East road; 3.5 mi. stone base retreat,

Hico-Lookout road; .3 mi. grading, relocation, Gauley road;

**Greenbrier**—45,000 ft. guard rail;

**Pocahontas-Greenbrier-Monroe**—115,000 ft. guard rail;

**Mingo-Logan**—57,000 ft. guard rail.

#### Contracts Awarded

Kentucky—State Highway Comsn., H. D. Palmore, Engr., Frankfort, let contract to M. P. Smith Construction Co., Somerset, at \$33,806, for 6.036 mi. grading, draining, Jamestown-Albany road, F. A. 212-AG, Russell County. 10-23-30

**LOUISIANA**—State Highway Comsn., O. K. Allen, Chmn., Baton Rouge, let contracts for 7 roads in following parishes:

**St. Charles**—8.3 mi. grading, draining, Boutte-Iles Allemands, A. C. Campbell, Winnfield, \$59,720;

**Terrebonne**—2.6 mi. grading, draining, Gibson-Donner, McWilliams Dredging Co., Canal Bank Bldg., New Orleans, \$61,436;

**Allen-Beauregard**—10.6 mi. gravel, Reeves-Dry Creek, Leathers & Martin, Alexandria, \$51,662;

**Jackson**—8.2 mi. grading, draining, Jonesboro-Midway, J. C. Neal, Hermitage, Ark., \$29,977;

**Ascension-St. James**—16.8 mi. subgrade surface treatment, Baton Rouge-New Orleans Airline, Hoffman & Jones, Madisonville, \$89,776;

**Rapides**—4.8 mi. gravel, J. W. Gwin, Birmingham, Ala., \$55,617;

**St. Landry**—16.4 mi. grading, draining, Le Beau-Krotz Springs, Bunnell & Mack, Paragould, Ark., \$219,935. 12-18

**Md., Baltimore**—City, Nathan L. Smith, Highways Engr., let contract to Frederico Banadio, Old Town Bank Bldg., at \$20,345, for paving, Cont. 567, Eastern Ave. underpass. 1-8

**Okla., Britton**—City, D. A. Riley, Clk., let contract to Western Paving Co., Petroleum Bldg., Oklahoma City, at \$5400, for 2900 yd. cold rolled asphalt; Peckham & Higgins, Engr., Oklahoma City. 12-11

**Okla., Oklahoma City**—City, M. Peshek, Jr., City Clk., let contracts for paving: 7-in. conc., S. 29th St., M. A. Swatek & Co., 519½ W. Main St., \$38,150; Linn Ave., Connelly Bros. Paving Co., Magnolia Bldg., \$2100; First St., E. W. Baker & Co., Perrine Bldg., \$4500; 6-in. compacted conc., Durland Ave., Western Paving Co., Petroleum Bldg., \$3600; 7-in. conc., 36th St., Connelly Bros., \$7000. 12-11

**Okla., Tulsa**—City, Earl Logan, City Clk., let contract to H. L. Cannady Co., 1116 S. Lewis St., at \$14,170, for paving and drainage, Dist. 1064; to Calumet Construction Co., 209 S. Nogales St., at \$36,270, for paving, Dist. 1065.

Tenn., Nashville—City, Bd. of Public Works, let contract to Eller & Olson, Cotton States Bldg., for repaving West End Ave. and rebuilding Gallatin road; W. W. Southgate, City Engr.

#### Sewer Construction

Sewer construction in **LAND DEVELOPMENT** projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported.

Ala., Haleyville—Albert Lyons, Rogersville, Tenn., reported, has contract for sewers.

Fla., Miami Beach—City, Ed. R. Neff, City Engr., soon call for bids for sewers vicinity of 63rd St.; 10-in., 8-in. and 6-in. t. c. or conc. pipe; Sanitary Sewers, SR146 and SR147.

La., Baton Rouge—George J. Robinson Co., 2704 Linden St., Pine Bluff, Ark., reported, has contract at \$191,358 for sanitary sewers. 12-25

La., New Orleans—Sewerage and Water Bd., receives bids Jan. 19 for following material for construction work: Furnishing and erecting galv. chain link fences; castings; cl. pipe and specials; specifications, etc., from Room 401, No. 520 Carondelet St.

La., Slidell—City, H. G. Fritchie, Mayor, plans issuing bonds for sewers. 12-11

**Md., Baltimore**—Domenico Cellinese, 213 S. High St., has contract at \$16,962 for sewers, Sanitary Contract 273. 1-8

**Md., Baltimore**—D. C. McAleer Construction Co., Lexington Bldg., low bidder at \$145,000 for sewers, Storm Water Contr. No. 160. 1-1-31

Miss., Greenville—J. B. McCrary Corp., Citizens and Southern Bank Bldg., Atlanta, Ga., reported, has contract for storm sewers in southeast Greenville.

Okla., Oklahoma City—Dobson & Humphreys, Lincoln, Neb., reported low bidder for sewers. 12-11

Okla., Sayre—City defeated bond issue. 12-18

Okla., Tulsa—J. H. Maxwell Co., 5 N. Boston St., reported, low bidder at \$23,668 for Bren Rose storm sewer project. 1-1

S. C., Greenville—Carl L. Gullick, Chrmn., Parker Dist. Sewer, reported, plans sewer; city may vote on bonds.

Tex., Houston—City, reported, plans construction of North Main-Twentieth St. storm sewer, cost \$280,000; complete section of Calhoun St. storm sewer; erect East End disposal plant on Simms Bayou. 1-8

Tex., San Antonio—J. L. Black, 122 Tremlet St., low bidder for Martinez St. sanitary sewer.

W. Va., Parkersburg—See Water Works.

#### Street Railways

Tex., Fort Worth—Northern Texas Traction Co., A. F. Townsend, Pres., plans expending \$75,000 for laying tracks through Jennings Ave., underpass and over Summit Ave. viaduct.

#### Telephone Systems

Ark., Fort Smith—KFP, John Brown Schools, applied to Federal Radio Comsn., Washington, for permission to change equipment, install automatic frequency control.

Ga., Macon—WGST, Macon Junior Chamber of Commerce, applied to Federal Radio Comsn., Washington, for construction permit to change equipment and install automatic frequency control.

N. C., Charlotte—McAlpine Telephone Co., capital \$100,000, incorporated; H. R. Cook, 24 Hermitage Court, Jasper C. Hutto, 29 Briarwood Rd.; acquired Matthews Telephone Co. and Waxhaw Telephone Co.; plans improvements.

N. C., Siler City—Associated Telephone Utilities Co., 72 W. Adams St., Chicago, Ill., reported, acquired Central Carolina Telephone Co., operating 29 exchanges in North and South Carolina.

Tenn., Chattanooga—Western Union Telegraph Co., Inc., 725 Broad St., advises regarding report company would expend \$850,000 in 1931, that this amount covers various operating expenses. 1-8-31

Tenn., Memphis—WNBK, Memphis Broadcasting Co., applied to Federal Radio Comsn., Washington, for construction permit to move transmitter from 883 Poplar Blvd. to 69 Jefferson Ave., and install new equipment.

Tex., College Station—WTAW, Agricultural & Mechanical College of Texas, applied to Federal Radio Comsn., Washington, for permission to install new transmitter.

Tex., Lufkin—J. A. Hugh & Non Binion, KTL Broadcasting Co., applied to Federal Radio Comsn., Washington, for construction permit for new station.

Va., Appomattox—Southern Appalachian Telephone Co., Asheville, N. C., reported, acquired local telephone company owned and operated by Herbert Pulliam.

Va., Petersburg—WLBG, Robert Allen Gamble, applied to Federal Radio Comsn., Washington, for construction permit to change equipment.

#### Textile Mills

N. C., Asheville—Clyde Mills, Inc., Newton, reported, leased Martell Mill properties at Elk Mountain, will reopen, improve and operate; manufacture special fabrics; properties acquired include 125 acres, main mill, bleaching, office, warehouse and 100 operatives homes.

N. C., Gastonia—Chamber of Commerce, reported, negotiating with eastern weaving company for establishing of weaving mill.



N. C., Charlotte—Larkwood Silk Hosiery Mills, Inc., N. Brevard St., E. W. Sachsenmaier, Mgr., reported, plans tripling plant; plans include building 2 additional units; install additional machines.

N. C., Wilmington—Seaboard Public Service Co., Alexandria, Va., reported, placed order with Draper Corp., Hopedale, Mass., for 600 automatic looms for weaving carded broadcloth, installation in recently acquired Delgado Mills. 1-1-31

S. C., Laurens—The Bahnsen Co., Reynolds Bldg., Winston-Salem, N. C., has contract for humidifiers for spinning room for Laurens Cotton Mill. 1-8

S. C., Lyman—Regarding report that Pacific Mills, 140 Federal St., Boston, Mass., planned \$500,000 addition to Lyman plant, company advises there is nothing definite, it has not been decided to make the addition at this time.

S. C., Rock Hill—Haynesworth & Haynesworth, Chamber of Commerce Bldg., Greenville, reported, acquired Red River Cotton Mills, for client.

Tex., Houston—Southern Bagging Co., capital \$250,000, incorporated; J. R. Richardson, 1133 W. Pierce St.; manufacture cotton jute products.

## Water Works

Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that classification.

Ala., Alabama City—City, reported, let contract for installation of 800 meters; also for c. i. boxes and tops; cost \$15,000.

La., Alexandria—City will lay water mains connecting territory in south Alexandria.

La., Hammond—City, C. C. Carter, Mayor, receives bids Feb. 3 for furnishing and laying water mains within corporate limits and for installing 1000 gal. dual drive fire pump, making repairs to present pump and engine; Henry T. Richardson, City Engr.; information on application. 11-6

La., Natchitoches—City plans extension of sewer lines and water mains.

Md., Baltimore—Bd. of Awards will open bids about last of Jan. for construction of \$1,500,000 water tunnel Lake Montibello to Druid Lake; E. G. Rost, Water Engr. 1-8-31

Md., Baltimore—Nathan Trotter, 36 N. Front St., Philadelphia, Pa., has contract for 200,000 lbs. pig lead.

Md., Brunswick—City, W. Jarboe Grove, City Engr., reported, plans laying \$35,000 pipe line and constructing 3,000,000 gal. reservoir; 4 miles of 8-in. c. i. pipe will be laid joining line which conveys water from Virginia springs across Potomac River at Knoxville and running into Brunswick; iron pipe planned to replace present wooden pipe from Knoxville to Brunswick; may vote on bonds. 12-11

Md., Cumberland—City, Thomas W. Koon, Mayor, plans building auxiliary dam on Evitts Creek for water supply; may engage J. E. Greiner, 1201 St. Paul St., Baltimore, as consulting engineer. 12-11

Md., Pikesville, Baltimore—DeCou & Childlaw, Eutaw and Biddle Sts., has contract for automatic pumping station. 1-8-31

Mo., Jefferson City—Phillips Pipe Line Co., Bartlesville, Okla., reported, constructing 25,000 gal. elevated water tank; S. Siebert, of Chicago Bridge & Iron Works, Chicago, Ill., in charge.

N. C., Roanoke Rapids—C. M. Guest & Sons, Sharpe St., Anderson, S. C., has contract for water works; erect filtration plant of 2,000,000 gal.; reservoir of 1,250,000 gals.; let contract to Roberts Filter Mfg. Co., Darby, Penn., for filters; cost of project \$63,000; J. E. Sirrine & Co., Engrs., Greenville, S. C. 1-8-31

Okla., Checotah—City voted water improvement bonds.

Okla., Chickasha—City, J. L. Larson, Mayor, plans filtration plant and distribution system addition; votes Jan. 20 on bonds; Hawley, Freese & Nichols, Const. Engrs., 417 Capps Bldg., Fort Worth; cost \$193,000.

Okla., Oklahoma City—City, reported, let contract to U. S. Cast Iron Pipe Co., Birmingham, Ala., for furnishing 8000 ft. of c. i. pipe for water main extensions; Charles E. Bretz, Water Supt.

Okla., Oklahoma City—City, Charles E. Bretz, Supt. Water Dept., plans extension water mains on S. E. Twenty-ninth St., E. Madison St., Jordan and Missouri Ave.

Tenn., Rogersville—City plans doubling water supply; J. B. McCrary Engineering Co., Atlanta, Ga., estimated, \$16,000 cost of piping water from Spear Spring, adding 50,000 gal. water daily; may issue bonds. See Financial News Column.

Tenn., Winchester—Tennessee Electric Power Co., Chattanooga, reported, install water mains and construct filter plant on N. Jefferson St.; brick and conc.

Tex., Beaumont—McWane Cast Iron Pipe Co., Birmingham, Ala., reported, has contract for 50,000 ft. of 20-in. pipe for water main extensions.

Tex., Gregory—Central Power and Light Co., Frost Natl. Bank Bldg., San Antonio, reported, construct 10-in. water main from Gregory to Ingleside to supply water for Humble refinery; water to be supplied from wells at Taft.

Tex., Wharton—City votes Jan. 20 on \$15,000 water works bonds.

Tex., Wichita Falls—City, N. Broom, Clk., advises if water works bond issue of \$1,000,000; expenditures include building seal-tight and pumping plant will be constructed and present system of distribution mains will be supplemented with variety of larger capacity mains; new conduit from the storage reservoir to pumping plant will also be included in improvement program. 1-1-31

Va., Bluefield—City, reported, plans installing \$40,000 filter plant.

Va., Fairfax—Virginia Engineering Co., 323-4 American National Bank, Richmond, received order from Town for forty-two 5-in. "Waterous" hydrants, each hydrant to have 2 hose connections and 1 steamer connection. 1-1-31

Va., Waynesboro—City, I. G. Vass, City Mgr., reported, plans developing Corner Springs as future water supply; cost \$150,000; expenditures include building seal-tight wall around spring, running water into city through 16-in. pipes; building catch basins, enlargement of reservoir and water mains and installation of pumps.

W. Va., Parkersburg—City votes March 3 on bonds for water works improvements and storm sewers. See Financial News Columns. 1-8-31

## Woodworking Plants

Ala., Cullman—E. Malchow & Sons, reported, rebuild burned crate and box plant.

Mo., Bowling Green—Blue Oak Co., capital \$53,000, incorporated; G. R. Meek, P. K. Meek.

Tex., Nacogdoches—Nacogdoches Truck Growers Assn., Rho Cox, Pres., reported, interested in establishment of box and crate plant.

## FIRE DAMAGE

Ala., Birmingham—Plant of Newell Contracting Co., Thirty-Third St. and Fifth Ave., loss \$50,000.

Ala., Cullman—Crate and box factory, owned by E. Malchow & Sons.

Ark., Dardanelle—Gleason Brothers' store; Leader Store owned by Arthur Grau; J. J. Boyce's store; loss \$35,000.

Ark., West Memphis—Planing mill of Z. T. Bragg Lumber Co.; loss \$25,000.

Ark., Ozark—J. R. and T. M. Davidson's store and several other buildings; loss \$35,000.

Ark., Walnut Ridge—S. N. Pitzele Co.'s store, building owned by Frank Pace, 2301 Broadway, Little Rock; loss \$25,000.

Ga., Savannah—Main turpentine distilling plant of Pineland Products Co. at Augusta Rd. and Compress Rd.; loss \$75,000.

Ky., Catlettsburg—Josselson Bldg. on Front St., owned by Alex Josselson.

Ky., Grayson—Grayson Hotel owned by Mrs. Hattie Nethercut loss \$10,000; R. M. Bagley's building.

Ky., Salt Lick—Salt Lick Lumber Co.'s plant; loss \$40,000.

La., Alexandria—Building, 1801 Third St., occupied by W. B. Leatherman Drug Store

and owned by L. B. Baynard, Jr., 901 Convention St., Baton Rouge; loss \$10,000.

La., Bonita—Moore's Cash Store; Red Ball Store; W. H. Booth's office and postoffice.

La., Lake Charles—Residence of D. M. Foster, Jr., Postmaster, 615 Broad St.

La., New Orleans—Barn No. 5 at Fair Grounds Racing Track; loss \$25,000.

La., Oakdale—Mrs. Alice G. Fussell's residence.

Md., Baltimore—Garage in rear of 2500 block Barclay St., owned by Baltimore Storage Co., Charles and Twenty-sixth Sts.

Md., Dundalk, Baltimore—Swan Point Inn, Miller's Island, Charles Clark, Propr.; loss \$10,000.

Md., Reisterstown—Geo. Durling's residence, Bond Ave., St. George.

Md., Rodgers Forge, Baltimore—Dwelling, Stevenson Lane, occupied by Jos. Essig, owned by Alonzo G. Decker and Frank Proctor, both care Black & Decker Manufacturing Co., Towson.

Miss., Crystal Springs—Residence of Mrs. Neppie Rives Lockwood, Postmistress.

Miss., Enid—School in Enid Consolidated School Dist., loss \$12,000; address Dist. School Trustees.

Miss., Gulfport—Joe Trippe Grocery Co.'s store and residence; loss \$15,000.

Miss., Gulfport—Garage and trucks of Home Lumber Co., Seventeenth St.

Miss., Hazelhurst—Wm. Berry's residence.

Miss., Leland—Tonkel Dept. Store, building owned by A. O. Huddleston; loss \$18,000.

Miss., Newhebron—Newhebron Drug Store, owned by Dr. S. Izard; O. P. Izard's dry goods store; Berry & Walton Dry Goods Store; loss \$30,000.

Miss., Oxford—Dormitory and gymnasium at Lafayette Agricultural School, J. B. Edwards, Supt., College Hill; loss \$15,000; residence belonging to Mrs. L. Q. Hurt, Van Buren, Ark.

Miss., Paynes—Consolidated School; address Tallahatchie County School Bd., Charleston; 6-room residence owned by Tallahatchie Home Bank, Charleston.

Miss., Union—Walter Boler's residence; Mr. Cooley's residence.

Miss., Yazoo City—Mrs. Tom McGraw's residence, Grand Ave.; loss \$15,000.

Mo., Kansas City—Palace Bowling Alley, 912 Main St., E. A. Riley, Propr.; loss \$10,000.

N. C., Greensboro—A. L. Ward's residence, Chestnut St.; Policeman H. S. Embry's residence, Carroll St.

N. C., Mount Airy—North Main Motor Co.'s plant.

N. C., Vilas—Mrs. Mattie Holsclaw's residence.

S. C., Columbia—Henry D. Pearson's residence, 120 Pickens St.; loss \$21,000.

Tenn., Algood—Algood Hotel owned by Melvin Hyder; loss \$10,000.

Tenn., Jellico—School building; loss \$50,000; address School Board.

Tenn., Millington—Post Office, Clyde Jamison, Postmaster; loss \$20,000.

Tenn., Venore—Floyd and Leslie Mosier's three buildings; John Isbell's two buildings; loss \$20,000.

Tenn., Walland—Plant owned by England, Walton Co., Inc., Third and Vine Sts., Philadelphia, Pa., operated by Schlosser Leather Co.; loss \$500,000.

Tex., Celeste—Dyer Brothers Drug Store; Denny Grocery Store; Kerr Grocery Store; Tom Sparks Grocery Store; loss \$100,000.

Tex., Hillsboro—Walker Bldg., occupied by City Drug Store; loss \$10,000.

Tex., Houston—F. A. Serafino's residence, 528 Hathaway St.; loss \$6,000.

Tex., Sinton—C. E. Curry's residence near Sinton.

Tex., Wichita Falls—Dr. V. E. Wratten's residence, 624 Polk St.; loss \$15,000.

Va., Falls Church—J. W. Browning's residence, Jefferson St.

Va., Ivor—Barns and outbuildings on farm of Mrs. L. H. Brantley, 3 miles from Ivor; loss \$15,000.

# BUILDING NEWS

## BUILDINGS PROPOSED

### Association and Fraternal

Tex., San Antonio—Elks Club, C. E. Smeltz, Sec.-Mgr., considers remodeling bldg., 225 E. Pecan St., damaged by fire.

### Bank and Office

D. C., Washington—Standard Oil Company of New Jersey, 241 Pennsylvania Ave., N. W.; \$1,000,000 office and garage bldg.; Clyde N. & Nelson Friz, Archts., Lexington Bldg., Baltimore, Md., hope to have plans out in 2 weeks; steel frame, conc. floors, stone, 6 stories and basement, 71x335 ft. with 200x20-ft. court in rear above second floor; Lynn Rosebrook, company archt., 26 Broadway, New York; Herman F. Doeleman, Struct. Engr., Balto. Trust Bldg.; Reeder, Eizer & Akers, Mech. Engrs., 916 N. Charles St., both Baltimore. 11-20

D. C., Washington—Office of Public Buildings and Public Parks, Room 1031, Navy Bldg., receives bids until Feb. 6 for office bldg. for American Red Cross, 18th and E Sts.; struct. steel and rein. conc., marble exterior, 5 stories, attic and basement, about 228x62 ft., cement, terrazzo and tile floors, conc. pile foundation; Trowbridge & Livingston, Archts., 527 Fifth Ave.; Weiskopf & Pickworth, Engrs., 45 W. 45th St., both New York; all mechanical work included in bids; information on application. 7-17

Okla., Oklahoma City—First National Bank & Trust Co., Frank P. Johnson, Pres., reported, receives bids Jan. 15 at office Weary & Alford, Archts., 1923 Calumet Ave., Chicago, Ill., for \$3,000,000 bank and office bldg.; structure fireproof, 32 stories and basement, 140x200 ft., brick, stone, steel and rein. conc., 80,000 sq. ft. of space for banking section, 250,000 sq. ft. for offices; Edw. Smith, Resident Archt., Amer. Natl. Bank Bldg., Oklahoma City; steel contracts lately noted. 12-18

### Churches

La., New Orleans—Our Lady of Perpetual Help R. C. Church, Concession, Plaquemine Parish, receives bids Jan. 22 at office Wm. R. Burk, Archt., Balter Bldg., New Orleans, for frame and stucco chapel; 1 story, 37x78 ft., rein. conc. foundation, Johns-Manville asbestos shingle roof, sheet metal work, 8-ft. cistern, wrought iron work; following contractors, estimating: L. J. Woodworth, 6017 Vicksburg St.; Gitz Construction Co., Balter Bldg., both New Orleans; Geo. E. Daviet, Gretna, La.; Saputo & Governali, 823 Perdido St., New Orleans; J. F. Rountree, Marrero. 5-1

N. C., New London—Methodist Church, Rev. J. N. Wise, Pastor, erect \$17,000 bldg.; brick veneer, 2 towers; auditorium and classrooms; start work in Spring.

Tex., Amarillo—First Christian Church start work in Spring on \$300,000 building. 5-1

Tex., Mercedes—First Presbyterian Church erect \$20,000 brick, stone, steel and rein. conc. Sunday school; 2 stories and basement, about 40x50 ft.; Galbraith & Gaylord, Archts., 517 Slaughter Bldg., Dallas; drawing plans.

Tex., San Antonio—San Antonio Gospel Tabernacle, care H. B. Taylor, 2800 S. Presa St., has plans about ready for struct. steel, conc., brick and tile bldg., Hampshire & Rucker Aves.; fireproof roof; seat about 4000; Evans Service Co., Archt., 1208 Natl. Bank of Commerce Bldg.; J. W. Beretta Engineers, Inc., Struct. Engrs., Natl. Bank of Commerce Bldg.

### City and County

Md., Hagerstown—Washington County Bd. of Comms. plans jail improvements.

Ky., Greensburg—Green County Fiscal Court may call election on bonds to erect court house and jail; jail recently destroyed by fire.

La., Lake Charles—Calcasieu Parish Police Jury expend \$12,000 to repair roof on court house, install new plumbing in jail (probably), etc.; R. S. McCook, Archt., First Natl. Bank Bldg.

La., Pineville—Town, Rollo C. Lawrence, Mayor, receives bids until Jan. 21 for \$20,000 town hall, jail and fire station; rein. conc., brick, 2 stories, 48x60 ft., rein. conc. foundation, b.ilt-up comp. roof, steel and iron work, sheet metal; following contractors estimating: R. J. Jones; E. T. Elam; E. H. Bailey, all Pineville; A. A. Gremillion & Co.;

Smith & Laborde; Tudor & Ratcliff, Commercial Bank Bldg.; Geo. G. Scallan, all Alexandria; Errol Barron, Archt., Haas Bldg., Alexandria. 11-6

La., Shreveport—Caddo Parish Police Jury issues \$65,000 bonds Jan. 24 to erect jail at Parish farm; brick and conc., 2 stories, accommodate 100; Edw. F. Neild, Archt., City Bank Bldg.; preliminary plans.

N. C., Raleigh—City, E. E. Culbreth, Mayor, approved tentative plans by H. P. S. Keller, 129 Hillcrest St., and A. J. Maxwell, Jr., 908 Cowper Drive, architects, for War Memorial auditorium, Fayetteville St.; architects instructed to prepare revised plans for structure to seat 5,000 instead of 4360; cost about \$500,000; Legislature to be requested to authorize issuance of bonds. 12-4

Okla., Chickasha—Grady County defeated \$300,000 court house and jail bonds; E. H. Eads & Co., Archts. 12-11

Tex., Abilene—Taylor County Bd. of Comms., Tom K. Eplen, County Judge, receives bids Jan. 29 for \$100,000 jail; brick and rein. conc., steel, 4 stories and basement; David S. Castle Co., Alexander Bldg., and Geo. Campbell, Radford Bldg., architects. 12-18

Tex., Spearman—Hansford County Bd. of Comms., C. W. King, County Judge, reported, having plans drawn by Townes, Lightfoot & Funk, Archts., Johnson Bldg., Amarillo, for \$150,000 court house.

Tex., Wharton—City votes Jan. 20 on \$25,000 city hall bonds.

### Dwellings

Fla., Jacksonville—Dr. A. W. Sears erect brick veneer residence; 2 stories, asbestos shingle roof; Jefferson D. Powell, Archt., both Professional Bldg.; bids in.

D. C., Washington—Mitchell Quick, Tower Bldg., has permit for 12,500 brick dwelling, 7712 Fourteenth St., N. W.; 2 stories.

D. C., Washington—R. B. Warren, Conn. Ave. and Sedgewick St., N. W., has permit for \$10,000 residence, 3255 Patterson St., N. W.; stone and stucco, 2 stories.

D. C., Washington—N. Mezzanotte, 2617 14th St., N. W., has permit for 4 brick dwellings, 2420-26 L'Enfant Square, S. E.; 2 stories; total \$17,000.

D. C., Washington—Thos. A. Jameson Co., 906 N. Y. Ave., N. W., has permit for 6 brick dwellings, 401 Sixteenth St. and 1602-10 D St., N. E.; 2 stories; total \$30,000.

D. C., Washington—J. B. Tiffey, 419 Oglethorpe St., N. W., has permit for 5 brick and tile dwellings, 517-25 Oneida Place, N. W.; 2 stories; total \$40,000.

D. C., Washington—Alfred T. Newbold, 5626 Conn. Ave., N. W., has permit for \$15,000 dwelling, 2741 Brandywine St., N. W.; 2 stories.

Ga., Atlanta—Mrs. W. P. Romberger, Austell Way, erect brick veneer residence, Habersham Rd.; 2 stories and basement 25x60 ft., 8 rooms, 3 baths, hardwood and tile floors, metal or slate roof, steel casement; Owen J. Southwell, Archt., Powers Ferry Rd.; plans soon ready for bids.

Ga., Brunswick—S. L. Calfee, Supt., M. W. Ritter Lumber Co., Columbus, O., purchased 650-acre New Hope plantation; plans residence.

Ga., Columbus—B. H. Hardaway, 1508 Third Ave., ready for bids about Jan. 20 for English type residence; native stone, brick and half-timber, 2 stories and basement, hardwood and tile floors, conc. foundation, slate roof, wrought iron work, 12 rooms, 3 baths, steam heat; Smith & Biggers, Archts., Murrain Bldg. 11-20

Ky., Kona—James B. McAuley plans \$10,000 residence early in Spring; brick veneer, 2 stories, 8 rooms, 2 baths, conc. basement, hardwood floors, plastered, hot water heat, radiator cabinets, rigid conduit, copper gutters and down spouts, bronze screens.

La., New Orleans—Racme, Inc., receives bids Jan. 22 at office Favrot & Livaudais, Ltd., Archts., Hibernia Bldg., for shingle dwelling, 1524 Calhoun St.; rein. conc. foundation, tile roof, tile baths, pine floors, sheet metal work, hot air heat; following contractors estimating: L. Delarosa, 616 Poydras St.; J. A. Haase, Jr., 916 Union St.; Carl E. Woodward, Inc., Louisiana Bldg.

La., New Orleans—Paul G. Charbonnet, Designer, 830 Union St., completed plans for 2-story Georgian Colonial type dwelling.

Metry Club Gardens; tile work, sheet metal work, oak floors, slate roof, hot air heat.

Md., Baltimore—Arthur A. Gassinger & Sons, Inc., 1766 N. Gay St., considers erecting number \$5000 dwellings, Gunpowder River; probably start work in Spring.

Md., Baltimore—Geo. B. Hess, 8 E. Baltimore St., purchased homesite, Seven Mile Lane; probably erect residence in Summer.

Md., Baltimore—G. Edw. Markley, 5502 Belair Rd., may erect residence, St. Albans Way, Homeland.

Md., Baltimore—T. Worth Jamison, Jr., Archt., 12 E. Pleasant St., drawing plans for \$20,000 stone and frame dwelling, Poplar Hills; 2 stories.

Md., Hebron—Mrs. Mabel L. Gillespie, 903 Amberson Ave., Pittsburgh, Pa., receives bids Jan. 20 at office Arthur C. Holden & Associates, Archts., 232 Madison Ave., New York, for 2 dwellings; stone, brick and frame, 2 stories; following contractors estimating: Morrow Bros., Fidelity Bldg.; L. L. Chambers, Inc., 36th St. and Roland Ave.; North-Eastern Construction Co., 6 W. Madison St., all Baltimore, Md. 12-18

Miss., Yazoo City—Mrs. Tom McGraw rebuild residence, Grand Ave., noted burned at \$15,000 loss.

N. C., Paw Creek—Kendall Mills advise will not erect dwellings at Park Creek and Newberry, S. C., as lately reported. 12-25

Tex., Houston—A. R. Hazard, 1427 W. Bell St., erect 2 brick veneer dwellings, 3005 Norfolk St. and 2003 Danville St.; 5 rooms; total \$10,000.

### Government and State

Ala., Fort McClellan, Anniston—Constructing Quartermaster, Lieut. O. E. Davis, has low bid at \$83,810 from Samford Bros., Inc., 301 Washington Ave., Montgomery, for hospital and utilities, Fort McClellan. 12-25

D. C., Washington—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids until Jan. 19 for test borings for \$865,000 bldg. for Public Health Service; street frontages of structure marble, steel sash, electro bronze, green glazed tile, pitched roof, deck roof, roofing tile, Indiana limestone court and rear walls; steel skeleton with terra cotta or other flooring, hollow tile or gypsum block partitions; marble finished floors in main entrance and stairhall, others of comp. with marble base, oak trim, sash and doors, white coated plaster walls; tile floors and 6-ft. wainscoting in toilets; conduit elect. system; vacuum vapor heating system; main stairs of marble treads and risers, wrought iron rail; other stairs conc. with safety treads, iron rails; 2 elect. passenger elevators; hot water and vacuum cleaning systems; structure contain 1,468,680 cu. ft.; 260 ft. on B St., 145x50 ft. on 19th and 20th Sts., and central rear wing 48x76 ft.; 18,592 sq. ft. of windows above ground; J. H. DeSibour, Archt., 1200 15th St., N. W. 10-30

Ga., Fort Benning—Constructing Quartermaster, reported, start work within 60 days on new bldgs., Fort Benning; \$1,050,000.

Md., Baltimore—Fourth Assistant Postmaster General, John W. Philp, Washington, D. C., receives bids until Feb. 3 for quarters for post office, Hampden Station, including heat, light, power, water, toilet facilities, plumbing, heating and lighting fixtures, safe or vault, and furniture and equipment; alternate proposal omitting furniture; 2400 sq. ft. floor space; bldg. requirements, etc., from Post Office Inspector Wrightson Chambers, Room 306, Temporary Main Post Office, Lombard and Commerce Sts., Baltimore.

Md., Baltimore—Fourth Assistant Postmaster General, Washington, D. C., receives bids until Jan. 27 for quarters for post office, Roland Park Station, including plumbing, heating and lighting fixtures, toilet facilities, safe or vault, furniture and equipment, etc.; alternate proposal omitting furniture; about 2100 sq. ft. floor space; building requirements, etc., from Post Office Inspector Wrightson Chambers, Room 306, Temporary Main Post Office, Lombard and Commerce Sts., Baltimore.

Md., Crisfield—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected site, Main and Tenth Sts., for post office.

Mo., Aurora—Prospective estimators, post office, bids in duplicate Jan. 23 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; C. V. Bacus; Aurora Lumber & Manufacturing Co., both Aurora; Kenton Construction Co., Winwright Bldg., St. Louis, Mo.; Rosen & Fischel, Inc., 11 S. LaSalle St., Chicago, Ill.; Earl E. Garber & Co., 203 W. Fourth St., Bethlehem, Pa.; DeVault & Deitrick, Inc., Massillon Rd., Canton, O.; Ortman & Dreher, 2126 Francis Ave., Flint, Mich.; Kellogg & Anderson, Sedalia, Mo.; James I. Barnes, Logansport, Ind.; M. E. Gillioz, Broadway Hotel Bldg., Monett, Mo.; W. D. Lovell, Minneapolis, Minn. 1-1



Mo., West Plains—Prospective Estimators, post office, bids Jan. 26 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; Kenton Construction Co., 923 Wainwright Bldg., St. Louis, Mo.; James I. Barnes, Logansport, Ind.; Fred G. Fisher, West Plains; Rosen & Fischel, Inc., 11 S. LaSalle St., Chicago, Ill. 1-8

Okl., Oklahoma City—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., plans \$40,000 post office, Capitol Hill; soon complete plans.

S. C., Dillon—James I. Barnes, Logansport, Inc., prospective estimator on post office, etc., bids in duplicate Jan. 27 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C. 1-8

Tex., Sugarland—Texas Prison Board, W. A. Paddock, Chmn., Houston, receives bids Jan. 23 by Purchasing Div., State Bd. of Control, Austin, for following materials for administration and dining hall, packing plant, power house, 4 picket towers, Central State Farm Prison near Sugarland: Rein. steel, steel stairs, sash and doors, steel lockers and partitions, misc. iron work, mechanical equipment, water lines, elect. lines, power and refrigeration plant, plumbing, heating and elect. work, fire lines, well pumping machinery, water tank, etc.; Giesecke & Harris, Archts., Norwood Bldg., Austin; Dr. F. E. Giesecke, Consultant, College Station; Lloyd D. Royer, Consult. Mech. Engr., Smith-Young Tower, San Antonio. 11-6

Va., Hampton Roads, Norfolk—Navy Dept., Bureau of Yards and Docks, Washington, D. C., has low bid at \$369,333 from Worsham Bros., Empire Bldg., Knoxville, Tenn., for 4 barracks (Item 1), Hampton Roads Naval Training Station; low bid at \$464,390 from same firm for 5 barracks (Item 2). 1-1

Va., Langley Field, Hampton—Prospective bidders on paint, oil and dope house and parachute bldg., Langley Field, bids Jan. 20 by Constructing Quartermaster, Fort Monroe, Va.; Newport Contracting & Engineering Co., Lee Hall, Va.; R. R. Richardson & Co., Inc., Natl. Bk. of Commerce Bldg.; L. McCloud, 1701 Colley Ave.; W. T. Gregory, Law Bldg.; E. Bradford Tazewell, 26th and Hampton Blvd.; Hall-Hodges Co., Inc., 806 Citizens Bldg.; Building Supplies Corp., 1906 Monticello Ave.; Enterprise Co., all Norfolk, Va.; W. P. Thurston Co., P. O. Box 2089; Allen J. Saville, Inc., Electric Bldg., both Richmond, Va.; J. A. Jones Construction Co., Commercial Bk. Bldg.; Joe B. Martin, 16 S. Poplar St.; Harrison-Wright Co.; Thomason-Bartholomew Co., 302 Piedmont Bldg.; Southeastern Construction Co., 210 W. Second St., all Charlotte, N. C.; U. A. Underwood Co., N. C. Bank Bldg., Wilmington, N. C.; North Eastern Construction Co., 812 Nissen Bldg., Winston-Salem, N. C.; Elliott Building Co., Inc., Hickory, N. C.; H. M. Lucas, 115 Bruce St.; J. L. Smith Co., Bldg. & Loan Bldg., both Portsmouth, Va.; Crockett & Perfater, Chas. T. Taylor, 17 S. King St.; E. J. Swanson, 73 Greenbriar Ave.; L. F. Crockett, LaSalle Ave., all Hampton, Va.; Crane Co., 1225 I St.; W. F. Jackson Co., 1113 Denrike Bldg., both Washington, D. C.; Rosen & Dischel, 11 S. LaSalle St., Chicago, Ill.; C. M. Buchanan & Co., Inc., Clarksville, Va.; Dietrich Bros., Pleasant and Davis Sts., Baltimore, Md.; Anchor Corrugating Construction Co., 130 W. 42nd St., New York; Water Front Lumber Co., River Road; W. R. Tomlinson, both Newport News, Va.; J. Mathis & Son, 546 Guarantee Trust Bldg., Atlantic City, N. J.; Geo. F. Hazelwood, Howard St., Cumberland, Md.; Thompson Construction Co., 2218 Chestnut St., Philadelphia, Pa.; S. S. Toler & Son, Rocky Mount, N. C. 1-1

Va., Langley Field, Hampton—Constructing Quartermaster, Fort Monroe, Va., receives bids Jan. 27 (extended date) for 4 barrack bldgs., Langley Field; prospective bidders given Jan. 8. 1-8

### Hospitals, Sanitariums, Etc.

Ala., Tuscaloosa—United States Veterans Bureau, L. H. Tripp, Ch., Constr. Div., Arlington Bldg., Washington, D. C., reported, receives bids April 1 for \$1,100,000 U. S. Veterans Hospital; rein. conc. struct. steel, brick and tile, comp. roof; 250 beds. 8-21

Md., Baltimore—Board of Supervisors of City Charities, City Hall, have plans ready for bids in about 10 days for alterations to Ward A. City Hospitals; brick, 3 stories; Palmer & Lambdin, Archts., 513 N. Charles St.; Van Rensselaer Saxe, Struct. Engr., 217 N. Calvert St. 10-30

Md., Sanatorium—State Tuberculosis Hospital having plans drawn by Buckler & Fenhagen, Archts., 325 N. Charles St., Baltimore, for 2-story brick nurses' home; sketches.

Md., Baltimore—City Bureau of Bldgs., City Hall, probably call for bids in about a

month for \$10,000 brick kitchen at Hospital for Communicable Diseases, Montebello; O. Eugene Adams, Archt., 329 N. Charles St.; Herman F. Doeelman, Struct. Engr., Balto. Trust Bldg.; Henry Adams, Inc., Mech. Engr., Calvert Bldg. 11-20

Md., Crownsville—Crownsville State Hospital receives bids Jan. 20 at office of Joseph Evans Sperry, Calvert Bldg., for \$80,000 nurses' home; brick, 2 stories; Herman Doeelman, Struct. Engr., Balto. Trust Bldg., both Baltimore; following contractors estimating: Davis Construction Co., 9 W. Chase St.; North-Eastern Construction Co., 6 W. Madison St.; R. B. Mason, 308 W. Madison St.; C. W. Schmidt, Hearst Tower Bldg.; J. L. Robinson Construction Co., 522 Park Ave.; Tase-Norris, Inc., 903 Cathedral St.; Lacchi Construction Co., Munsey Bldg.; Frainie Bros., 19 W. Franklin St.; Chas. A. Mohr, 333 St. Paul Place (representing Cramp & Co., Philadelphia, Pa.); Ralph MacMurray, 39th St. and Old York Rd.; M. A. Long Co., 10 W. Chase St.; Consolidated Engineering Co., Inc., 20 E. Franklin St.; W. E. Bickerton Construction Co., 515 Cathedral St.; Mullan Contracting Co., 3945 Greenmount Ave.; Cogswell Construction Co., 406 Park Ave., all Baltimore; Crisp & Davis, Patapasco Ave., Brooklyn, Baltimore; Bean Bros.; Jas. Stehle; Elmer Parkins, 93 Prince George St.; Saml. B. Dove, 3 Acton Place; Carlson & Carlson, all Annapolis; C. Ernest Nichols, Laurel. 12-18

Md., Perry Point—Consolidated Engineering Co., 20 E. Franklin St., Baltimore, Md., and North-Eastern Construction Co., 6 W. Madison St., Baltimore, estimating on \$300,000 N. P. Convalescent Bldg., U. S. Veterans Hospital, bids Feb. 3 by U. S. Veterans Bureau, Arlington, Bldg., Washington, D. C. 12-25

S. C., Charleston—Berkeley County Bd. of Commrs., Moncks Corner, requested Charleston County Bd. of Commrs. to permit expenditure by them of \$17,000 to enlarge Pinehaven tuberculosis sanatorium to accommodate Berkeley County patients.

Tex., Waco—United States Veterans Bureau, L. H. Tripp, Ch., Constr. Div., Arlington Bldg., Washington, D. C., receives bids in triplicate until Feb. 21 for U. S. Veterans Hospital, bldgs. and utilities, including roads, walks, grading and drainage; work includes excavating, rein. conc. constr., hollow tile, brick work, cut stone, cast stone, architectural terra cotta, marble work, floor and wall tile, rubber tile, compressed asphalt tile and linoleum floors, terrazzo, iron work, flag pole, steel sash, steel stairs with slate treads, steel shelving, cabinets and partitions, tile, metal and built-up roofing, roof ventilators, lightning conductor, metal lathing, platform scale, metal weatherstrips, insect screens, window shades, vacuum cleaning system, boiler plant, nurses' call system, fire alarm system; separate bids for (a) general constr., including radial brick chimney; (b) plumbing, heating, elect. work and outside sewer, water, gas, steam and elect. distribution systems; (c) elect. elevators; (d) steel water tank and tower; (e) zeolite water softening system; (f) refrigerating and ice making plant; hospital to include administration bldg., 2 or 3 patients' bldgs., dining hall, kitchen, laundry, garage, storehouse, recreation hall and quarters for 12 to 15 doctors, 50 nurses, dietitians and 100 other attendants, residences for supt. and other officials; main bldg. H shape, 4 stories, brick; others 2 stories; all fireproof; indoor swimming pool; \$1,500,000. 11-13

W. Va., Huntington—Huntington Orthopedic Hospital, Dr. Arthur S. Jones, Huntington, has gift of 181-acre farm near Milton; erect Morris Memorial Hospital for Crippled Children; enlarge dwelling as first unit.

W. Va., Huntington—United States Veterans Bureau, L. H. Tripp, Ch., Constr. Div., Arlington Bldg., Washington, D. C., reported, will call for bids May 11 for \$700,000 general hospital; 152 beds. 8-28

### Hotels and Apartments

D. C., Washington—C. M. Wilcox, 76 Randolph Place, N. W., erect \$10,000, 2-story, brick apartment, 2015 Thirteenth St., S. E.

La., Monroe—Dr. A. H. Gladden, Columbia Road, remodel Bohemia Hotel on North Grand St.; exterior to be stuccoed, interior walls plastered, new roof; also remodel space for stores.

Ga., Madison—B. B. Whitaker soon ready for bids for 2-story and basement, brick and stucco hotel; steam heat, hardwood floors; Jess Wilhoit, Archt., Mortgage Guarantee Bldg., Atlanta.

Mo., St. Louis—Amity Association, J. P. Solven, Pres., 916 Morgan St., reported, plans 15-story hotel for workmen and headquarters building for association, 1806 Locust St.

N. C., Charlotte—D. A. Cunningham, Mgr., Addison Apartments, 713 E. Morehead St., announced that 100-room addition to building is planned in spring; \$150,000 to \$200,000.

Va., Norfolk—Logan Investment Corp. received bids Jan. 16 for \$75,000, brick, 12-apartment building in Ghent section; Alex O. Ferebee, Archt., both Arcade Bldg.

### Miscellaneous

Ark., Hardy—D. Hurd Hudson, Bank of Commerce Bldg., Memphis, Tenn., rebuild Wahpeton Inn, summer resort, recently burned; \$100,000; stone and rock, fireproof, steam heat; 100 bedrooms; in addition to hotel, there are 20 summer cottages which will be refinished with stone and rock; Raymond B. Spencer, Archt., Fidelity Bank Bldg., Memphis, Tenn.

Ark., Little Rock—H. Grady Manning, Chmn. Comm., promoting construction of baseball park.

Fla., Tampa—Centro Espanol Club Bd. of Directors has plans by Fred J. James, 706 Franklin St., for 2-story, 69x95 ft. gymnasium on Cherry St., adjoining West Tampa building; also has plans by Couch & Parslow, 1002½ Florida St., for 2-story, 32x65 ft. gymnasium at Ybor City clubhouse. 12-18

La., New Orleans—New Orleans Adjustment Co., Maritime Bldg., remodel 3-story, brick and frame building, 1204 Decatur St., damaged by fire; Emile Weil, Inc., Archts., Whitney Bank Bldg.; bids in.

La., Shreveport—Columbia Restaurant, 521 Market St., ready for bids in few days for \$10,000 improvements to building; Seymour Van Os, Archt., City Bank Bldg.

Md., Baltimore—Baltimore Country Club, Heyward Boyce, Pres., Maryland Trust Bldg., rebuild clubhouse noted burned at loss \$150,000; Wyatt & Nolting, Archts., Keyser Bldg.

Md., Montgomery County—Sisters of Mercy of the Union of the United States of America, Washington, D. C., purchased Kentsdale, 1000-acre suburban estate in Country Club section of Montgomery County, for use as Mother House and convent school and for future expansion; erect dormitory to accommodate 200 students.

Md., Timonium—Maryland State Fair and Agricultural Society of Baltimore County, Matt L. Daiger, Sec., Equitable Bldg., Baltimore, expend \$60,000 for improvements during 1931; plans call for industrial building, 90x250 ft.; seats and aisles to be placed in grandstand to accommodate 5000 people; conc. pavilion; concreting all ground in front of pavilion and grandstand, also in parimutuel ring.

Tenn., Memphis—Memphis Outdoor Athletic and Hygienic Institute applied for charter; \$500,000 capital; Tom and Trezevant Collier, both 858 Poplar St., Alice Collier Neely and others, incorporators; develop Collier property for health and sport center; plans include 18-hole golf course, tennis courts, basketball floors, bridge paths, rifle and pistol ranges, archery ranges, swimming pool, sun bath facilities.

Tex., Amarillo—Tri-State Fair Exposition, Wilbur C. Hawk, Mgr., construct show ring, remodel school exhibit building into sales arena, etc.; bids in.

Tex., Dallas—Buckner Orphans' Home, Dr. Hal F. Buckner, Mgr., E. Pike St., plans 4 fireproof dormitories; \$75,000 each; plans to have \$300,000 building program completed by 1933.

Tex., Galveston—John G. Nelson, Dallas, and associates, have plans by Andrew Fraser, A. N. I. Bldg., Galveston, for \$500,000 pleasure pier, 35th St. and Boulevard; monolithic rein. conc. with precast rein. conc. piling 17 ft. square, and 85x5 ft. long, with load capacity of 60,000 pounds per mile; pier will extend out into gulf 700 ft., with causeway about 40 ft. wide approaching pier pavilion and auditorium; 65x120 ft. pavilion extending 400 ft. in gulf; fishing pier in form of T; auditorium to seat 1500 people. 12-4

### Railway Stations, Sheds, Etc.

Tex., Houston—Southern Pacific Ry. Co., R. W. Barnes, Ch. Engr., Southern Pacific Bldg., has plans nearly completed by Wyatt C. Hedrick, Inc., First Natl. Bank Bldg., Fort Worth, for \$5,000,000 brick and stone, fireproof passenger station. 10-2

### Schools

Ala., Auburn—Bd. of Education, J. R. Rutland, receives bids Jan. 21 for \$115,000, 2-story and basement, brick and steel school; stone trim, comp. roof, 208.9 ft. frontage; plans by A. F. Dittmar, State Dept. of Education, Montgomery.

D. C., Washington—Following contractors estimating on 4-room addition to Deanwood School, bids Jan. 20 by District Comms., Roland M. Brennan, Ch. Clk., Engr. Dept., Dist. Bldg.; Graham Construction Co., Washington Bldg.; Loudoun-Rust Co., Dist. Natl. Bank Bldg.; Fidelity Construction Co.; Skinner & Garrett, 1719 I St., N. W.; Henry B. Davis, 1311 G St., N. W., all Washington; North-Eastern Construction Co., 6 N. Madison St., Baltimore; A. L. Harris, Municipal Archt., Dist. Bldg. 1-8

Fla., Gainesville—State Bd. of Control, P. K. Yonge, Chmn., Carling Hotel, Jacksonville, soon call for bids for \$100,000 extension to library at University of Florida; 2 stories, brick, tile, rein. conc. and steel; tile and terrazzo floors; Rudolph Weaver, Archt., Peabody Hall. 1-8

Fla., Griffin—Griffin School Dist. voted \$12,500 bonds for school building; 1 story and basement, 6 classrooms and auditorium; brick, 12x65 ft., asbestos roof; ready for bids latter part of Feb.; Arch. Holsinger, Archt., Court House, Barstow. 12-4

Ga., College Park—Cox College, W. S. Cox, plans to reopen buildings Sept. 1; make alterations and improvements to buildings.

La., Baton Rouge—Louisiana State University, Dr. J. M. Smith, Pres., plans buildings for Medical College on campus of University.

La., Marrero—A. S. Montz, Archt., 740 Poydras St., New Orleans, receives bids about Jan. 20 for 2-story, 128x145 ft., brick, stucco and stone trim building at Hope Haven Mechanical Diocese of New Orleans; comp. roof, gas steam heat; marble, tile, wood, cellized wood and cement floors; contractors estimating recently noted. 1-8

La., New Orleans—Louisiana State University, Dr. J. M. Smith, Pres., Baton Rouge, soon select architect to prepare plans for building for School of Medicine to be erected on property of New Orleans Charity Hospital. See La., Baton Rouge.

La., Monroe—Ouachita Parish School Bd., T. O. Brown, Supt., ready for bids in about week for \$250,000, 3-story, rein. conc. and brick Junior College; J. W. Smith & Associates, Archts., Ouachita Natl. Bank Bldg. 1-8

La., Plaquemine—Iberville Parish School Bd., P. L. Terrebbonne, Supt., convert Plaquemine School into elementary school; purchase site and erect high school; provide gymnasium, auditorium and athletic field, all in Plaquemine; erect 2-classroom addition to Crescent building; erect building at Grand River and repair Bayou Pigeon School; voted \$120,000 bonds; Wm. T. Nolan, Archt., Canal Bank Bldg., New Orleans; ready for bids about Feb. 10. 12-4

La., Shreveport—Caddo Parish School Bd., E. Weldon Jones, Supt., receives bids Feb. 11 for \$75,000, rein. conc. and brick, 15-classroom Jewella School; comp. roof, stone trim; Clarence W. King Architects, Giddens-Lane Bldg. 12-18

La., Thiba—Rapides Parish School Bd., W. J. Avery, Sec.-Treas., erect \$50,000 to \$60,000, 1-story, brick, 6-classroom auditorium and gymnasium school; G. Scott Yeager, Archt., Commercial Bank Bldg., Alexandria; ready for bids about April. 11-6

Md., Annapolis—Anne Arundel County School Comms., George Fox, Supt. of Schools, erect three high schools—Annapolis, Glen Burnie and one in southern section of county; \$1,000,000 bonds recently voted. 11-13

Md., Baltimore—Bd. of Public Improvement Comsn., H. J. Leimbach, Supvg. Engr., City Hall, ready for bids about March 1 for \$250,000 school, Mount St. near Riggs Ave.; Buckler & Fenhagen, Archts., 325 N. Charles St.; Henry Massart, Struc. Engr., 328 N. Charles St.; James Posey, Mech. Engr., Baltimore Trust Bldg. 1-30-30

Md., Baltimore—Following contractors estimating on \$150,000 school, Preston St. between Druid Hill and Pennsylvania Aves., bids Jan. 21 by Public Improvement Comsn., H. J. Leimbach, Supvg. Engr., Municipal Office Bldg.; P. C. Streiff Engineering Co., 404 St. Paul St.; H. L. Maas & Sons, 1119 Ensor St.; Lacchi Construction Co., Munsey Bldg.; David M. Andrew Co., 26th and Sisson Sts.; North-Eastern Construction Co., 6 W. Madison St.; J. L. Robinson Construction Co., 522 Park Ave.; Charles L. Stockhausen, 33 S. Gay St.; Cramp & Co., 333 St. Paul Place, all Baltimore; William Langhorne & Co., 1900 Parrish St., Philadelphia, Pa., and 810 American Bldg., Baltimore; Flournoy & Flournoy, Archts., 334 St. Paul St.; Henry Adams, Inc., Mech. Engr., Calvert Bldg.; Henry Massart, Struc. Engr., 328 N. Charles St. 1-8

Md., Hyattsville—Prince Georges County Bd. of Education, Perry Boswell, Pres., having plans prepared by Upman & Adams, Woodward Bldg., Washington, D. C., for \$18,000, 2-story, brick school.

Miss., Enid—Enid Consolidated School Dist. Trustees erect school to replace structure burned at loss \$12,000.

N. C., Lumberton—Robeson County Bd. of Education, H. S. McLean, has low bid from Tucker & Sikes, Monroe, for 7-room and auditorium, frame primary school near Lumberton; comp. roof; J. M. Kennedy, Archt., Gilmer Bldg., Raleigh.

Okla., Alsuma, R. D. from Broken Arrow—Bd. of Education, Consolidated Dist. No. 2 ready for bids during Feb. for \$10,000, brick, 3-room addition to grade school; A. J. Love & Co., Archts., Atco Bldg., Tulsa. 12-4

Okla., Lawton—School Bd. having plans prepared by Guy Dale for \$23,000, 2-story, brick and conc. school.

Okla., Pawnee—Pawnee Indian Agency plans \$60,000 school, \$20,000 central heating and power plant and repairs to existing structures for dormitory facilities, \$5000.

Okla., Ponca City—Bd. of Education, L. K. Meek, Chmn. Bldg. Comm., receives bids Jan. 23 for \$90,000, 1-story, 205x157 ft., brick Roosevelt School; built-up asphalt or tin roof, conc. floors; G. J. Cannon, Archt. 11-20

Tenn., Iron City—Lawrence County Bd. of Education, L. N. Lumpkins, Supt., Lawrenceburg, will ask Legislature to allow court to issue \$30,000 erection of two schools—Iron City and West Point.

Tex., Beeville—St. Mary's Academy, Father Dan Laning, erect 1-story, 6-classroom brick and hollow tile school and 2-story frame convent, to replace recently burned structures; \$20,000.

Tex., Dallas—Bd. of Education, N. R. Crozier, Supt., receives bids Jan. 23 for Robert E. Lee elementary school; \$130,000, 2 stories, conc.; DeWitt & Washburn, Archts., Kirby Bldg. 9-11

Tex., Galveston—School Bd., John Neethe, Pres., erect \$300,000, rein. conc. and brick Jr. High School; Giesecke & Harris, Norwood Bldg., Austin, and R. R. Rapp, Guaranty Bldg., Galveston, Asso. Archts.; remodel and repair schools; \$100,000, brick and rein. conc.; Andrew Fraser, Archt., Am. Natl. Insurance Bldg., Galveston. 11-20

Tex., Galveston—University of Texas, J. W. Calhoun, Comptroller, Austin, ready for bids early in Feb. for \$400,000, 4-story, brick, rein. conc. and stone laboratory building at Medical College; Herbert M. Greene, LaRoche & Dahl, Archts., Construction Bldg., Dallas. 12-11

Tex., Ozona—Ozona Ind. School Dist., Judge C. E. Davis, receives bids Jan. 22 for 3-story, natural limestone, conc. and steel high school; 20 classrooms, gymnasium and laboratories; auditorium to seat 750; \$170,000 bonds voted; Peters, Strange & Bradshaw, Archts., Lubbock. 10-16

Tex., Shiner—Shiner Ind. School Dist. Trustees erect \$25,000, 1-story and part basement, 53x78 ft., brick and stone school gymnasium; slate roof, maple floors, steam heat; L. Harrington Co., Archts.-Engrs., Builders Exchange Bldg., San Antonio; contract to be let locally.

Va., Farmville—J. L. Jarman, Pres., State Teachers' College, advises that appropriation

for library was conditional and do not think work will begin before 1932. 1-8

Va., University—University of Virginia, Dr. Edwin A. Alderman, Pres., has low bid from C. M. Guest & Son, Sharpe St., Anderson, S. C., for \$75,000, 3-story, 43x121 ft., rein. conc., brick and tile addition to Cobb Chemical Laboratory; comp. roof; plans by John K. Peebles, Chmn., Architectural Comsn., Law Bldg., Norfolk. 12-18

## Stores

D. C., Washington—Wilton J. Lambert, Munsey Bldg., erect \$44,000, 2-story, brick and conc. store, 25 Massachusetts Ave., N. W.

Ga., Atlanta—Hugh Richardson, Jr., 160 Peachtree St., N. E., has plans by A. Ten Eyck Brown and A. Barili, Jr., both Forsyth Bldg., for rebuilding 4-story store and office building recently damaged by fire at loss \$75,000; brick, comp. roof. 1-8

Ga., Rome—Esserman & Co., rebuild store recently noted damaged by fire at loss \$12,000; 2 stories, brick, comp. roof; Lockwood & Poundstone, Archts., Marietta Bldg., Atlanta.

La., Alexandria—Scott Stores, Inc., 430 W. Randolph St., soon ready for bids for \$25,000, 2-story, brick store on Third St., between Murray and Johnston Sts. 12-25

Miss., Prentiss—B. G. Walden soon let contract for 1-story, 45x90 ft., brick and hollow tile store; built-up asphalt roof; E. C. Hearon & Sons, Archts., 121½ W. Pine St., Hattiesburg.

Mo., St. Louis—Richman Brothers Co., 1600 E. 55th St., Cleveland, O., leased 5-story building, 7th St. and Washington Ave., and expend \$30,000 for improvements for store.

Tenn., Memphis—Hanker & Cairns, Archts., 123 S. Court St., advises that proposed \$75,000 arcade, 10-12 N. Second St., for J. Baynard Snowden, 1325 Lamar St., is being held in abeyance. 1-8

Tex., Houston—General Properties Co., Gulf Bldg., has permit for \$16,000 store, 2526 Park St.

W. Va., Clarksburg—G. C. Murphy Co., G. W. Falk, McKeesport, Pa., having plans prepared by Charles L. Hickman, Clarksburg, for improvements to first floor of Hornor Bldg., 316 W. Main St., for store; \$20,000 to \$40,000.

## Theatres

Okla., McAlester—R. and R. Theater Enterprises, Inc., 314 S. Harwood St., Dallas, Tex., S. L. Stokes, Local Mgr., erect \$45,000, 3-story, 50x120 ft., steel and conc. theater on Choctaw Ave., to replace recently burned structure; conc. floors; conc., steel roof; W. Scott Dunne, Archt., Melba Bldg., Dallas; bids about Jan. 12.

## Warehouses

Md., Baltimore—Herbert L. Bowen, Pres., Baltimore Cement Products Co., Inc., 1448 Wicomico St., erect 1-story, brick building, Bush and Hamburg Sts., for lease.

# BUILDING CONTRACTS AWARDED

## Association and Fraternal

Md., Baltimore—Grand Lodge of Maryland, Independent Order of Odd Fellows, Cathedral and Saratoga Sts., let contract to W. E. Bickerton Construction Co., 515 Cathedral St.; to alter 2 lodge rooms, ballroom and elevator shaft; \$10,000; Office of Joseph Evans Sperry, Archt., Calvert Bldg.

Tex., Nacogdoches—Milam Lodge No. 2, A. F. & A. M., E. L. Gaston, member, Bldg. Comm., let contract to Wm. A. Foster, Lufkin, for \$20,000 temple; 2 stories. 10-30

## Bank and Office

Okla., Oklahoma City—Starrett Investing Corp., 101 Park Ave., New York, reported, ready in about 2 weeks for bids on materials for \$3,000,000 Ramsey Bldg.; struct. steel frame, limestone base, brick with stone trim above, marble lobby and wainscoting, 33 stories, 100x125 ft., set-back type, 6 high-speed automatic elevators, roof garden; 2 top floors for proposed Skyline Club; 33,000 sq. ft. office space; Walter W. Ahlschlager, Inc., Archts., 10 N. Clark St., Chicago, Ill., and 565 Fifth Ave., New York; Drury Moseley Co., Asso. Archts., Perrine Bldg., Oklahoma City; Starrett Bros. Inc., Contrs., 8 S. Dearborn St., Chicago, and 101 Park Ave., New York; Leo Sanders, Trades Natl. Bk. Bldg., Oklahoma City, contractor for wrecking and excavation. 10-9

## City and County

Tenn., Sneedville—Hancock County let contract to Emory Construction Co., Empire Bldg., Knoxville, for \$30,000 brick courthouse to replace burned structure. 8-14

Tex., Corpus Christi—Pauley Jail Building Co., 2215 DeKalb St., St. Louis, Mo., has contract at \$32,500 for jail equipment for Nueces County court house annex; Dielman & Levy, Archts.-Engrs., State Natl. Bk. Bldg.; Geo. H. Belote Construction Co., City Natl. Bk. Bldg., both Corpus Christi. 10-30

## Dwellings

D. C., Washington—Harry Wardman, 1437 K St., N. W., erect 12 dwellings in connection with new development.

D. C., Washington—Columbia Construction Co., 7100 Ninth St., N. W., has permit for 2 brick and cinder block dwellings, 7101-07 Ninth St., N. W.; 2½ stories; total \$16,000.

Fla., Miami Beach—Jean G. Venetos, 379 Washington Ave., Brooklyn, N. Y., and Miami Beach, let contract to James Betteridge, 1976 N. W. 24th Court, Miami, for \$15,000 residence, Collins Ave. and 40th St.; C. LeRoy Kinports, Archt., 3807 Kumquat Ave., Coconut Grove, Miami.

Fla., Miami Beach—Stanley P. Reagan, Chicago, Ill., erect \$12,500 residence and garage, Altos Del Mar; rein. conc., conc. block, stucco, tile and oak floors, comp. and



tile roof; Carlos B. Schoeppl, 2382 N. Alton Road, Miami, and John & Coulton Skinner, Archts., 528 Lincoln Road, Miami Beach, Fla.; M. R. Harrison Construction Co., Contr., 500 N. E. 45th St., Miami.

Fla., St. Petersburg—Hester M. R. Warner, 136 16th Ave. S. E., erect \$11,000 residence, E-446 Sixteenth Ave. N.; frame, 8 rooms; Clarkson Homes Co., Contr.

Ga., Atlanta—Mrs. Mary A. Greer, 360 Kendrick St., S. E., erect brick veneer residence, 906 Underwood Ave.; 1 story, hardwood floors, comp. roof; day labor.

Ga., Atlanta—L. B. Gerbert, 5344 Orme Circle, N. E., erect brick veneer residence, 1106 Hudson Drive, N. E.; 1 story, hardwood floors, 6 rooms, hot air heat; day labor.

Ga., Brunswick—Mrs. W. F. Parker erect bungalow, 927 Carpenter St.; Francis Abreu, Archt.; J. W. Collins, Contr.

Ga., Brunswick—Mrs. R. R. Campbell erect bungalow, Everett St. and Ocean Blvd., Ocean Breezes; J. M. Kent, Contr.

La., Monroe—T. C. Bruford, Eugene Courtney, Jr., and Frank Pettit, Sr., 3002 Lovers Lane, erect dwellings, Sherrouse Addition; total \$11,500; L. C. Sykes, Contr.

La., New Orleans—Frank DuFrechou, 4227 Fontainebleau Drive, erect raised residence; ready for sub-bids in about 10 days on tile work, sheet metal work, tile roofing, etc.

La., New Orleans—C. W. Saffel, Contr., 817 Perdido St., erect single dwelling, Lakeview; sheet metal work, tile roofing.

La., New Orleans—Morgan Trahan, Contr., 1017 S. Genois St., erect 2 double dwellings, Euphrosina St. near Clark St.; asbestos roof, sheet metal work, orna. iron, rein. steel.

Md., Baltimore—E. J. McGraw, Bldr., 5307 St. Albans Way, erect \$12,000 dwelling, 5306 Springlake Way, Homeland, brick, 2½ stories, 50x35 ft.; Herbert Aiken, Archt., 2116 Maryland Ave.; owner builds.

Md., Baltimore—Gunn, Williamson & Guy, Inc., 306 N. Charles St., erect \$20,000 dwelling, Homeland, after plans by J. Winthrop Wolcott, Archt., 324 N. Charles; brick or stone, 2½ stories; owner builds. 12-18

Md., Baltimore—John L. Tregellas, Inc., 10 E. Fayette St., erect cinder block and stucco dwelling, 5407 Fair Oaks Ave.; 2 stories; Bernard Evander, Archt., 20 E. Lexington St.; owner builds.

Md., Baltimore—Milton R. Lerch, 5206 Harford Road, erect 2 dwellings and garages, 3112-14 Northway Drive; 2 stories; total \$10,000; owner builds.

Mo., Kirkwood, St. Louis—Ed. J. Boland, 1034 N. Harrison Ave., erect 2 brick veneer dwellings, 1020-24 N. Harrison Ave.; 1 story, 28x45 ft., comp. roofs, hot water heat; total \$10,000; Walter Boland, Archt.; owner builds.

Mo., St. Louis—J. P. Fendler, 5615 Lisette St., erect 3 brick dwellings, 5605-19 Gresham St.; 1 story, 28x42 ft., asphalt shingle roofs, hot air heat; total \$15,500; A. F. Stauder, Archt., 3600 S. Grand Ave.; owner builds.

Mo., University City, St. Louis—H. Godwin, 6635 Delmar Ave., erect 2 brick dwellings, 7180-86 Delmar Ave.; 43x28 ft. and 43x30 ft., rubble foundation, tile roofs, hot water heat; total \$17,500; plans and constr. by owner.

Tenn., Memphis—Mrs. Edw. Hunter, 1408 Faxon St., let contract to L. L. Diehl, 1663 Forrest St., for \$12,000 residence, 65 W. Gallopway Drive; stone and stucco, 1 story, 68x78 ft. 1-1

Tex., Kenedy—M. T. Scarbrough erect frame residence; 2 stories, conc. foundation; Will N. Noonan Co., Archts. Bldrs. Exch. Bldg., San Antonio; A. D. Ammons, Contr., Kenedy.

Tex., San Antonio—Jack Flaherty, 618 N. St. Marys St., erect rock veneer residence, W. Rosewood St. near McCullough St.; 1 story, 7 rooms; Emmett T. Jackson, Archt., Builders Exch. Bldg.; W. E. Simpson & Co., Engrs., Milam Bldg.

Tex., San Antonio—Mrs. A. J. Moore and Dr. P. E. Moore, care Beverly W. Spillman & Beverly W. Spillman, Jr., Archts.-Engrs., Alamo Bank Bldg., let contract to Wm. Rux & Gormley, 112 E. White St., to remodel residence, 110 E. Craig St.

### Government and State

Fla., Miami—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$7150 to M. R. Harrison Construction Co., Inc., P. O. Box 1997, Buena Vista Station, Miami, for clearing site of \$1,641,000 post office and custom house; Phineas E. Paist & Harold D. Stewart, Archts.; L. Murry Dixon, Asso. Archt., all Ingraham Bldg., Miami, and Ponce de Leon Entrance Bldg., Coral Gables, Fla.; Maurice H. Connell, Mech. Engr., McAllister Hotel

Bldg., Miami; Harvey Baxter, Struct. Engr., 518 Harding St., P. O. Box 65, Coconut Grove, Fla.; description Dec. 11. 12-11

Ga., Atlanta—Bahson Co., Reynolds Bldg., Winston-Salem, N. C., has contract for humidifiers for new industries bldg., Federal Prison.

La., Baton Rouge—Potts & Callahan, Knickerbocker Bldg., Baltimore, Md., have excavation contract for \$5,000,000 State Capitol, 4050 tons struct. steel, reported, let to Lukens Steel Co., Costerville, Pa.; excavation for sub-basement, Craven & Lang, N. O. Bank Bldg., New Orleans; Weiss, Dreyfous & Seiferth, Archts., Maison Blanche Bldg., New Orleans; George A. Fuller Co., Contr., Fulmer Bldg., New York, and Munsey Bldg., Washington, D. C. 1-8

Okla., Oklahoma City—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$951,532 to DeVault & Deitrick, Inc., Massillon Rd., Canton, O., for extension and remodeling of post office and court house; elevators, Otis Elevator Co., 810 18th St., N. W., Washington, at \$46,600. 1-1

S. C., Spartanburg—Connors Steel Co., Empire Bldg., Birmingham, Ala., has contract for 125 tons rein. conc. for \$350,000 post office, court house, etc.; 57 tons struct. steel, Bristol Steel & Iron Works, Bristol, Va.; Algernon Blair, Archt., First Natl. Bk. Bldg., Montgomery, Ala. 12-18

Va., Alexandria—Following sub-contracts let on \$250,000 custom house, post office, etc.: Rein. steel, Concrete Steel Co., Pennsylvania Bldg., Philadelphia, Pa.; struct. steel and orna. iron, Roanoke Iron Works, 321 Third St., S. E.; marble and tile, Roanoke Marble & Granite Co., 1750 Jefferson St., both Roanoke, Va.; plumbing, heating and wiring, J. L. Powers, Bennettsville, S. C.; granite, J. D. Sargent Granite Co., Mt. Airy, N. C.; limestone, Indiana Limestone Co., Bedford, Ind.; roofing sheet metal work, C. F. Shuman Roofing Co., E. Boulevard, Charlotte, N. C.; face brick, Locher & Co., Glasgow, Va.; hardware, Lockwood Co., 16 Reade St., New York; millwork, Enochs Lumber & Manufacturing Co., S. State St., Jackson, Miss.; painting, William Wilson Co., Inc., Bona Allen Bldg.; lath and plaster, Jacobson Plastering Corp., Candler Bldg., both Atlanta, Ga.; Beaman-Coleman Construction Co., Contr., Capital Club Bldg., Raleigh, N. C. 9-4

W. Va., Clarksburg—A. Pettito, Prunty Bldg., has excavation and foundation contract for \$425,000 post office and court house; rein. steel, steel sash, pans, glass, glazing, skylights and insect screens, Truscon Steel Co., Grant Bldg., Pittsburgh, Pa.; 140 tons struct. steel, Ingalls Iron Works Co., Verona, Pittsburgh; John Largura & Co., Contrs., 2672 Adams St., Gary, Ind. 12-18

### Hospitals, Sanitariums, Etc.

D. C., Washington—Constructing Quartermaster, Army Medical Center, Major W. J. McCaughy, let contract at \$684,625 to H. R. Blagg Co., Dayton, O., for Army Medical School addition; brick, conc., limestone and steel, 4 stories, 255x195 ft., terrazzo, cork, tile and cement floors, conc. foundation, slate roof; plans by Quartermaster General, Munitions Bldg., Washington. 12-11

Ky., Ashland—Kings Daughters Hospital, Ben Williamson, Sr., member, Bldg. Comm., let contract to H. W. Cox for \$100,000 addition; 3 stories; X-ray laboratory, diet kitchen, elevator. 8-21

La., Baton Rouge—Louisiana Tuberculosis League, New Courthouse Bldg., New Orleans, let contract at \$34,470, including plumbing, heating and wiring, to D. E. Chapman, Weick Bldg., Baton Rouge, for Mary J. Walker hospital bldg., Greenwell Springs 16 miles from Baton Rouge; frame and stucco, 2 stories, 40x200 ft., textile floors, asbestos shingle roof, steel lockers, asbestos walls; M. B. DePass, Archt., 342 Carondelet St., New Orleans. 10-23

Miss., Gulfport—Virginia Bridge & Iron Co., Roanoke, Va., has steel contract for \$425,000 additional bldgs., utilities and alterations, U. S. Veterans' Hospital; plumbing, heating, gas piping and outside drains, American Heating & Plumbing Co., 827 Baronne St., New Orleans, La.; Henry B. Ryan Co., Contr., 500 N. Dearborn St., Chicago, Ill. 12-18

Okla., Oklahoma City—Sisters of St. Francis let contract to Peltier & Fitzgibbons for \$16,000 chaplain's home, St. Anthony Hospital; stone, brick and tile, 1 story and basement, 34x60 ft.; C. L. Monnot, Archt.; Archt. drawing plans for 4-story and basement addition to hospital for which Peltier & Fitzgibbons have contract; brick, stone and rein. conc.; plans ready about last of January.

### Hotels and Apartments

D. C., Washington—Young & Oppenheimer, 914 F St., N. W., having plans prepared by

George T. Santmyers, 925 15th St., N. W., for ten 2-story, brick and hollow tile apartments, West Virginia Ave., N. E.; slag roofs, hot water heat, oak floors; owners build.

D. C., Washington—Capital Fireproofing Co., has contract for 600 tons rein. steel for 11-story addition to one-story and basement building, 19th St. Dupont Circle and Connecticut Ave., for apartment hotel for Joseph J. Moebis, Archt.-Bldr., Dupont Circle Bldg. 1-1

Ga., Atlanta—H. W. Nicholes, 142 Brighton Road, has contract for \$75,000, 2-story and basement, brick veneer, 24-apartment, W. Peachtree and 19th Sts., N. W.; comp. roof, hardwood and tile floors, stone trim, steam heat; private plans.

Ga., Atlanta—Incorporated Investment Co., 1149 Ponce de Leon Ave., N. E., remodel apartment, 633 Parkway Drive, N. E.; change from 8 to 12 apartments, brick veneer, comp. roof, steam heat, wood floors; owner builds.

Ga., Decatur—J. L. Womack, 643 Edgewood Ave., N. E., Atlanta, started work on \$35,000, 2-story, brick veneer, 16-apartment building on Ponce de Leon Ave.; comp. roof, hardwood and tile floors, seatm heat; plans by owner; day labor.

Ga., Swainsboro—John T. Ragan Co., Vidalia, has contract for alterations and additions to Swainsboro Hotel; add 15 baths, steam heating plant; work started; Jess Wilhoit, Archt., Mortgage Guarantee Bldg., Atlanta.

Ky., Louisville—L. Jacobson & Sons, 446 S. Fifth St., have permit for \$12,000 improvements to brick apartment, 40 Reeser Court.

La., Elizabeth—Industrial Lumber Co. started work on hotel to replace Edwards Hotel recently destroyed by fire; 32 rooms; work in charge of I. K. Miller.

Md., Baltimore—Earl L. Warren, Tower Bldg., start work in about 30 days on 8-story, 42x56 ft., brick hotel, Broadway and Jefferson Sts.; James Baird & Co., Inc., Contrs., 1800 E St., N. W.; C. N. Bell and A. S. Rich, Archts., 817 14th St., N. W., all Washington, D. C.

Md., Baltimore—Following sub-contracts awarded on \$1,000,000, 200x290 ft., brick, 110-apartment building, 39th St. and Canterbury Road, for Thomas Mullan, 3945 Greenmount Ave.; Electric, Electromechanical Co., 432 N. Calvert St.; hardware, Hubbard & Eggleston, 120 W. Baltimore St.; brick, Baltimore Brick Co., Maryland Trust Bldg.; common brick, Champion Brick Co., 110 E. Lexington St.; steel, Dietrich Bros., 220 E. Pleasant St.; refrigeration, Marchant & Evan, through Pen Mar Co., Inc., Munsey Bldg.; plumbing, Geo. L. Schubert, 2332 Frederick Ave.; 175-car garage; pouring slab on basement over subbasement; most of brick work in basement complete; owner, Archt.-Bldr. 10-9

Mo., St. Louis—Grand Delor Investment Co., Fullerton Bldg., erect \$25,000, 3-story, 30x100 ft., brick store and apartment, 4688-90 S. Grand Ave.; comp. roof, steam heat; Herman Mayer Co., Archt.-Bldr., Fullerton Bldg.

N. C., Charlotte—L. A. Young let contract to A. Lloyd Goode, Inc., 2435 Cherokee Road, for \$10,000 improvements to Mayfair Hotel.

Okla., Oklahoma City—H. D. Alexander erect \$20,000, 2-story and basement, 68x40 ft., brick veneer apartment; work started by day labor; plans by owner.

Okla., Oklahoma City—F. E. Clothier, 1206 W. Ninth St., started work on \$19,500, 2-story and basement, 66x40 ft., brick veneer apartment; owner, Archt.

Okla., Oklahoma City—Dr. W. C. Cummings, 711 N. Walnut St., erect 2½-story and basement, brick and conc., 10-apartment building; H. D. Fox, Contr.; plans by owner.

Tex., San Antonio—J. Johnson, 218 Hubbard St., erect \$15,000, 2-story, 4-apartment, 216 E. Rosewood St.; rock veneer; owner builds.

### Miscellaneous

N. C., High Point—High Point Country Club let contract to R. K. Stewart & Son, S. Hamilton St., for \$16,000 improvements to clubhouse; Fred B. Klein, Archt., 114 N. Washington St. 1-8

Tex., Weatherford—W. A. White & Co., erect \$25,000, 2-story, brick funeral home; contract let.

### Schools

Ala., Montgomery—Bd. of Education, W. H. Harrison, Supt., let contract to Samford Brothers, 301 Washington Ave., for 1-story, brick veneer school on Washington-Ferry Road; comp. roof.

Ala., University—Delta Kappa Epsilon Fraternity, Shaler Houser, Sec., University of Alabama, let contract to John Laycock, Tuscaloosa, for 10-room addition and alterations to 2-story brick veneer fraternity

house; Miller & Martin, Archts., Title Guarantee Bldg., Birmingham. 12-4

Ark., Hope—Hope Special School Dist. let contract at \$123,409 to J. M. O'Neal for 3-story, brick, stone and conc., 25-classroom high school; stone trim; plumbing, Shivers Brothers; electrical work, H. and H. Co., Camden; Petter & McAninch, Archts., Pyramid Life Bldg., Little Rock.

D. C., Washington—District Commrs., Roland M. Brennan, Ch. Clk., Engr. Dept., Dist. Bldg., let contract at \$83,940 to Graham Construction Co., Washington Bldg., for 2-story, brick and stone, 8-room addition to John Greenleaf Whittier School, Fifth and Sheridan Sts., N. W.; A. L. Harris, Municipal Archt. 12-25

Ky., Calhoun—Bd. of Education let contract to B. P. McChesney, Bowling Green, for 2-story, 40x51 ft., brick and stone high and grade school to replace structure recently burned; built-up roof, stone trim, wood floors, vacuum heat; Harry E. Boyle & Co., Archts., Furniture Bldg., Evansville, Ind. 1-8

La., Pioneer—West Carroll Parish School Bd., O. E. Huey, Supt., Oak Grove, let contract to M. H. Reynolds & Son for 1-story, frame, 6-room school. 1-1

Miss., Holly Springs—Holly Springs School Dist. Trustees, G. M. Buckhanon, Pres., let contract to Murff Conway and Mabry, Tupelo, for 1-story, 70x100 ft., frame gymnasium; J. M. Spain, Archt., New Merchants Bank Bldg., Jackson. 1-1

Mo., St. Louis—Missouri Rolling Mill Corp., 6800 Manchester St., has contract for 130 tons rein. steel for \$250,000 Commerce and Finance Bldg., St. Louis University; Gillespie & Daly, Gen. Contrs., International Life Bldg.; Henry P. Hess, Archt., Ambassador Bldg. 12-25

N. C., Orrum—Robeson County Bd. of Education, J. R. Poole, Supt., started work on \$22,000 school at Orrum and \$18,000 structure at Barker; one-story, brick and tile, comp. roofs, wood floors; Castle Construction Co., Inc., Contr., Lawyers Bldg., Raleigh; J. M. Kennedy, Archt., 3306 Hillsboro St., Raleigh.

Tex., Austin—Following sub-contracts awarded on \$350,000, 5-story classroom building at University of Texas for which R. E. McKee, 1918 Texas St., El Paso, has general contract: Excavation, Joseph Mackin, 702 Rio Grande St., Austin; cut stone, Texas Cut Stone Co., Austin; terra cotta, Northwestern Terra Cotta Co., 2525 Clybourne Ave., Chicago, Ill.; glass and glazing, Binswanger & Co., Richmond, Va.; rein. steel, Concrete Engineering Co., Omaha Natl. Bank Bldg., Omaha, Neb.; struc. steel, orna. iron, Southern Ornamental Iron Works, Arlington, Texas; roofing and sheet metal, Turner Roofing & Sup. Co.; elevators, Hunter-Hayes Co.; granite, Anton Stossowender; sand and gravel, Austin Sand & Gravel Co., W. Side Ave.; finish hardware, Walter Tips Co., 200 Colorado St., all Austin; comp. floors, Thos. Moulding Floor Co., 165 Wacker Drive, Chicago, Ill.; Herbert M. Greene, LaRoche & Dahl, Archts., Construction Industries Bldg., Dallas; R. L. White, Supvg. Archt., University of Texas. 12-4

Tex., San Antonio—Walsh, Burney & Key, Inc., 829 N. Flores St., awarded contract for foundation for 3-story and basement, brick, tile and reinforced concrete high school, N. St. Marys, Dallas and Augusta Sts., for St. Mary's Academy, Bro. John Waldron, 112 College Ct.; bids on superstructure being received, date opening to be announced; Henry Dreisörner, Archt., 3826 Arsenal St., St. Louis, Mo.; Lilly & Drought, Engrs., Frost Natl. Bank Bldg. 12-25

Va., Lexington—Camel City Electric Co., W. Main St., Winston-Salem, N. C., has electrical contract for \$200,000 Engineering Hall at Virginia Military Institute; Carneal, Johnston & Wright, Archts., Electric Bldg., Richmond; number other sub-contracts reported several months ago. 10-2

### Stores

D. C., Washington—L. Jacobs, 413 11th St., N. W., let contract to C. Kennon, 814 18th St., N. W., for addition and remodeling building, 411 11th St.; brick, tin roof, hot water heat; Julius Wenig, Archt., Edmonds Bldg. 11-12

Fla., Orlando—V. W. Estes, 24 S. Orange St., remodel old telephone building, E. Pine St. and Orange Ave., for 2 stores and several offices; B. J. Lord, Contr., 628 E. Pine St.

Ga., Atlanta—Daniel Bros. Co., 45 Peachtree St., N. E., let contract at \$19,258 to Pittman Construction Co., Rhodes Bldg., for alterations and addition to store; 2 stories and balcony, brick, rein. conc. and hollow tile; terrazzo floors, terra cotta trim; Daniell & Beutell, Archts., Georgia Savings Bank Bldg. 1-8

Ga., Atlanta—Lerner's Shop, 62 Whitehall St., S. W., erect additions and remodel 3-story store; owner builds by day labor; work started.

Ga., Atlanta—Palmer, Inc., Palmer Bldg., let contract to G. H. Butler, Glenn Bldg., for alterations and additions to 3-story store, Edgewood Ave. and Pryor St.; Burge & Stevens, Archts., Marietta Bldg. 1-8

Md., Baltimore—Stewart & Co., Roland Sigmund, Howard and Lexington Sts., let contract to M. A. Long Co., 10 W. Chase St., for street entrance. 1-1

Md., Baltimore—Nicholas G. Coroneos, 6716 Harford Road, let contract to W. T. Childs, 3824 Garrison Ave., for 1-story, 56x60 ft., brick store, Harford Road and Northern Parkway; contain 3 stores; Fredk. E. Beall, Archt., 334 St. Paul St.

Miss., Bourbon—C. C. Weston started work on 26x52 ft., 1½-story, brick store; H. N. Alexander & Sons, Contrs., Greenville.

Okla., Tulsa—F. W. Woolworth Co., Woolworth Bldg., New York City, started work on 10x50 ft. rear addition and improvements to store; 3 stories, tar and gravel roof, \$25,000; James T. Taylor, Contr., Aviation Bldg., Fort Worth, Tex.

### Theatres

Tenn., Nashville—Foster & Creighton, Fourth and First Natl. Bank Bldg., reported, have excavation contract for \$1,250,000, 12-story theater and office building, Church St. and 6th Ave., for Warner Bros. Pictures, Inc., 321 W. 44th St., New York; bids on building about March 1; stone, marble trim; seat 3000 people; Marr & Holman, Archts., Stahlman Bldg. 12-25

### Warehouses

Ga., Marietta—Fry Shaw erect 1-story, 108 x 65 ft., brick and rein. conc. warehouse on Cherokee St.; owner builds by day labor.

Ky., Lexington—Lexington Division, American Suppliers, Inc., Charles L. Gary, Pres., 815 Kramer Ave., let contract to Fiske-Carter Construction Co., Greenville, S. C., for \$400,000 tobacco storage warehouse on Leestown pike.

Mo., St. Louis—International Shoe Co., W. H. Moulton, Pres., 15th St. and Washington Ave., remodeling office and warehouse at cost of \$60,000.

## Trade Literature

**Industrial Survey.**—Four booklets issued by the Industrial Commission of Winston-Salem, Inc., comprise an industrial survey of that city and vicinity. Booklet No. 1 presents an analysis of the Southeastern market including the states of Virginia, North Carolina, South Carolina and Georgia. Booklet No. 2 is devoted to Winston-Salem as a center of distribution for this area. An analysis of the industrial advantages and opportunities of the section is given in Booklet No. 3 and in Booklet No. 4 is presented Winston-Salem's past history, its present qualifications and future possibilities.

**Storage Problems.**—The Durabilt Steel Locker Co., Aurora, Ill., manufacturers of lockers, storage and wardrobe cabinets, have issued in booklet form an article "Solving Gymnasium Storage Problems," reprinted from recent issues of the Journal of Health and Physical Education. The publication may be of value to schools and colleges, clubs, lodges, stores, banks, hospitals, industrial, churches and other institutions concerned with the problem of storage and may be obtained by addressing the company.

**Electroplating Aluminum.**—This is the title of a booklet issued by the Aluminum Company of America, Pittsburgh, Pa. It deals comprehensively with the electroplating of aluminum and has two pages, with illustrations, of articles so treated.

**Judging Furniture.**—The National Committee on Wood Utilization of the Department of Commerce will release in March a booklet, "How to Judge Furniture," incorporating suggestions for home owners and merchants. Alexander B. Trowbridge, New York, architect and former president of the American Federation of Art, is chairman of a sub-committee sponsoring the publication. It is pointed out that \$2,000,000,000 is expended annually for furniture and that 1,500,000,000 board feet of lumber are used. The purpose of the booklet is to promote intelligent use of wood and intelligent furniture buying.

**Wiley Whirley Derricks.**—The Dayton Whirley Company, Dayton, Ohio, manufacturers of Wiley Whirley heavy duty steel derricks for clamshell, dragline and hoisting work, have issued a new catalog devoted to these machines. Wiley Whirley derricks are of the traveling, revolving type with long reach. Several major changes have been made and a number of minor improvements and refinements in detail since the last catalog of the company was issued about two years ago.

**Iron Bushing.**—"To satisfy a demand for sound cast iron bushings of better than ordinary quality," the Lunkenheimer Co., Cincinnati, now maintains a stock of cylindrical bushing castings made of Lunkenheimer No. 30 iron, a cupola-electric furnace product processed under careful metallurgical control. These bushings, which are described in a folder issued by the company, are said to be dense in structure, uniform in hardness, high in physical properties and sound to the core.

**Road Machinery.**—Three folders issued by the Caterpillar Tractor Co. illustrate and describe three road equipment units manufactured by the company: The Caterpillar Twenty Motor Patrol, a Caterpillar Twenty tractor combined with a rugged grader unit; the Caterpillar Super-Reliance grader designed for the Caterpillar Sixty tractor, and a detachable trailer patrol maintainer built for the Caterpillar Fifteen or the Twenty.

**Wire Engineering.**—John A. Roebling's Sons Company, Trenton, N. J., have issued a new house organ, "Wire Engineering—A Distinctive Roebling Service." The magazine covers engineering, technical and news articles on wire rope, welding wire, flat wire, copper wire and insulated wire and cables, etc. Early numbers will present details of manufacturing methods employed by the Roebling organization in the development of its products.

**Industrial Electric Heating.**—The Westinghouse Electric and Manufacturing Company has issued a new publication, Catalog 247, devoted to industrial heating equipment. It presents operating data, charts, tables and installation photographs, with a section covering magnetic controllers, push button stations, furnace transformers, thermometers, thermostats, pyrometers, etc.

**Road Building Machines.**—A booklet issued by the Caterpillar Tractor Co., Peoria, Ill., presents in condensed form a handy reference to the complete line of Caterpillar road machines. The publication carries a number of illustrations showing various applications of the machines, in addition to descriptive data.



# WANT SECTION

## THE CLASSIFICATIONS IN THIS SECTION ARE:

### Machinery and Supplies

Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.

*Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.*

### Building Materials and Equipment

This division comprises all classes and kinds of materials and equipment used in building and construction projects of every kind.

### Bids Asked

Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.

### Machinery and Supplies

**Crusher.**—R. P. Johnson (Machy. Dealer), Wytheville, Va.—Wants prices and data on 10 x 16-in. or 11 x 20-in. portable crusher on trucks with elevator and screen.

**Engine.**—Frank B. Cole, Constt. Engr., Box 563, Newnan, Ga.—Wants prices and data on 35 to 45-h. p. oil or gasoline engine, good condition.

**Engines (Gas).**—A. A. Miller, Fort Payne, Ala.—Wants prices and data on 2 used gas engines.

**Gravel Crushers.**—H. H. Page, Sr., Aberdeen, N. C.—Wants prices and data immediately on crushers to handle gravel, producing reasonably sized, uniform product, 50 to 70 tons hourly.

**Locomotive.**—W. M. Smith & Co. (Mch. Dealer), Box 1709, Birmingham, Ala.—Wants prices and data on standard gauge, gasoline or electric locomotive, 15 to 30 ton capacity.

**Moulder.**—W. M. Smith & Co. (Mch. Dealer), Box 1709, Birmingham, Ala.—Wants prices and data on Fay and Egan, No. 404 novelty moulder.

**Guyan Machine Shops, Logan, W. Va.**—Wants prices and data on following:

- (1) **Crane**—about 5 ton capacity, locomotive type, electrically or gasoline operated.
- (2) **Boring Mill**—horizontal boring, drilling and milling or floor mill.
- (3) **Holsts**—for I-beams, 1 to 5 ton capacity, a. c. and d. c., 220 volts
- (4) **Lathe (Engine)**—about 20 in. x 14 ft. Q. C. gear, taper attachment, single pulley or a. c. motor drive
- (5) **Motor**—a. c., 220-440 volts, 3 phase, 60 cycle, 5 h. p. to 100 h. p.
- (6) **Welding Machine**—200 to 300 square, gasoline or belt driven.

**Pencil Manufacturing Machinery.**—Scripto Mfg. Co., 144 Jackson St., Atlanta, Ga.—Wants machinery for pencil manufacturing.

**T. M. Francis, 435 Brown-Marx Bldg., Birmingham, Ala.**—Wants prices and data on following:

- (1) **Boilers**—H. R. T., approx. 200 h. p.; water tube, approx. 350 h. p.
- (2) **Engines**—one each of R. H. and L. H. Corliss, 22 or 24-in. cylinder diameters.

**Shaper.**—Dixie Fire Brick Co., Inc., 723-24 Woodward Bldg., Birmingham, Ala.—Wants shaper for machine shop, "20" preferred; could use smaller one; would consider used one.

### Miscellaneous

**J. K. Cottingham, 1517 Prairie Ave., Houston, Tex.**—Wants prices and data on following:

- (1) **Grindstones**—hand turned, or sharpening machines, emery wheels.
- (2) **Files**—knife blade.

**Cans (Tin).**—M. J. Houghton, 1012½ Bigley Ave., Charleston, W. Va.—Wants prices and data from manufacturers of tin cans or other containers for automobile and furniture polish.

### Building Material and Equipment

**D. D. Cole, Marion, Va.,** wants prices on building material; now interested in following:

**Siding**—galvanized.  
**P. B. McChesney, Contr., Bowling Green, Ky.,** wants prices on following for \$50,000 school, Calhoun, Ky.:

- Roofing**—built-up
- Steel Sash and Trim.**
- The Wilson Co., Charlottesville, Va., estimating on N. P. convalescent bldg., U. S. Veterans Hospital, Perry Point, Md. (bids Feb. 3) wants prices on following:
- Brick
- Cast Stone
- Cement
- Compressed Asphalt Tile
- Crushed Stone or Gravel
- Electric Fixtures
- Electric Wiring

### Fire Resisting Doors

Glazing  
Hardware  
Heating  
Insect Screens  
Iron—ornamental, miscellaneous  
Kitchen Equipment  
Lathing and Plastering  
Linoleum  
Marble and Tile  
Metal Weatherstrips  
Painting  
Plumbing  
Roofing and Sheet Metal Work  
Sand  
Sewer Work and Ventilating Fans  
Steel and Cast Iron Stairs  
Steel Cabinets and Furniture  
Steel Shelving  
Steel Windows  
Sterilizing Equipment  
Structural Slate  
Structural Steel  
Terrazzo

Tile—hollow building  
Window Shades  
Water and Dampproofing.

### Bids Asked

**Airway Lighting.**—W. S. Erwin, Ch., Division of Supplies, Dept. of Commerce, Washington, D. C.—Bids Feb. 10 for installation of lighting facilities on Florence-Richmond section of Jacksonville-Richmond Airway; work consists of installing about twenty-one 24-in. electric revolving beacons and an electric code beacon, together with other necessary appurtenances and accessories between Florence and Richmond, distance of 260 miles; 3 of the revolving beacons and 1 electric code beacon will be installed at intermediate landing fields, together with boundary lighting systems; beacons as rule will be mounted on 51-ft. or other height galv. steel skeleton towers; information on application; Proposal, No. 22880.

**Air Compressor.**—Comms., District of Columbia, Washington, D. C.—Bids Jan. 22 for air compressor, portable, gasoline driven, mounted on auto truck.

**Boilers.**—See Well Drilling Equipment.

**Boring, Drilling and Milling Machine.**—See Miscellaneous Machinery.

**Bridges.**—State of Arkansas—Bids for 2 bridges. See Construction News—Roads, Streets and Paving.

**Bridges.**—State of Missouri—Bids for 34 bridges. See Construction News—Roads, Streets and Paving.

**Bridges.**—State of Virginia—Bids for 7 bridges. See Construction News—Roads.

**Building.**—Treasury Dep., U. S. Coast Guard, Washington, D. C.—Bids Jan. 21 for constructing 1-story metal building, 50x59 ft. 6 in., with conc. footings, floor and foundation, 9-in. brick wall to bottom of windows, razing existing boiler house and removing debris and excavation, grading and other work, U. S. Coast Guard Depot, Curtis Bay, Baltimore, Md.; plans with Commandant, U. S. Coast Guard Depot, Curtis Bay, or Commandant U. S. Coast Guard, Washington.

**Conveying Equipment.**—Comms., District of Columbia, Washington, D. C.—Bids Jan. 23 for coal conveying equipment for Sewer Dept.

**Chains.**—U. S. Engr. Office, Huntington, W. Va.—Bids Jan. 20 for 2 backing chains, each 115 ft. long, 1½ in.

**Dikes and Revetment.**—U. S. Engr. Office, Postal Telegraph Bldg., Kansas City, Mo.—Bids Jan. 20 for 10,490 lin. ft. standard pile clump dikes and 5400 lin. ft. standard revetment, 5.2 mi. from South St. Joseph, Mo., Anderson Reach and Kenmoor Bend.

**Dredging.**—U. S. Engr. Office, Wilmington, Del.—Bids Jan. 22 for dredging approx. 15,000 cu. yd., Little Machipongo River, Va.

**Dredging.**—U. S. Engr. Office, Navy Bldg., Washington, D. C.—Bids Jan. 20 for dredging 133,075 cu. yd. material, Rappahannock River, Va.

**Dredge.**—U. S. Engr. Office, Jacksonville, Fla.—Bids Jan. 20 for lease and operation of hydraulic pipe line dredge, Caloosahatchee-Lake Okeechobee Drainage Areas, Fla.

**Drilling.**—U. S. Engr. Office, Chattanooga, Tenn.—Bids Jan. 20 for diamond core drilling for sub-surface investigations of foundations at 8 lock and dam sites, Tennessee River between Wilson Dam, and Hales Bar Dam, Tenn.

**Drills and Countersinks.**—See Miscellaneous Machinery, etc.

**Drill Grinder.**—See Miscellaneous Machinery, etc.

**Grate Bars.**—U. S. Engr. Office, Huntington, W. Va.—Bids Jan. 21 for grate bars for repair to U. S. Dredge Adams.

**Grinders and Buffers.**—See Miscellaneous Machinery.

**Hardware.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Jan. 20 for miscellaneous hardware, delivery Quantico, Va.

**Lathes (Turret).**—See Miscellaneous Machinery.

**Levee.**—U. S. Engr. Office, P. O. Box 667, Vicksburg, Miss.—Bids Jan. 22 for approx. 100,000 cu. yd. earthwork, south bank Arkansas River, Ark. See Construction News—Miscellaneous Construction.

**Milling Machine.**—See Miscellaneous Machinery, etc.

**Miscellaneous Machinery, etc.**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Jan. 27 for motor driven hand and power feed millers drills and countersinks; bids Feb. 3 for hammers and hatchets, motor driven hand milling machine.

**Miscellaneous.**—Panama Canal, Office of Gen. Pur. Officer, Washington, D. C.—Bids Jan. 26 for following, Sch. 2623:

**Pipe fittings, steel racks and pinions, range boilers, shower heads, fountain heads, bath plugs, floor flanges, metal valves, cocks, reflectors, switches, etc.**

**Miscellaneous.**—Panama Canal, Office of Gen. Pur. Officer, Washington, D. C.—Bids Jan. 19 for following, Sch. 2622:

**Galvanized pure iron sheets, bronze propellers, portable phantom loads, nickel-plated brass inclosure trimmings, copper or brass netting, kedge anchors, fog horns, portable drink mixers, launch lights, marine door locks, etc.**

**Miscellaneous Machinery.**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Jan. 20 for motor driven turret lathes, motor driven horizontal boring drilling and milling machine; bids Jan. 27 for motor driven bench grinders and buffers combined.

**Retaining Wall (Concrete).**—Bd. of Levee Comms., Orleans Levee Dist., 606 Common St., New Orleans, La.—Bids Feb. 6 for constructing conc. retaining wall. See Construction News—Miscellaneous Construction.

**Road Material.**—Louisiana Highway Comsn., Harry B. Henderlite, State Highway Engr., Louisiana National Bank Bldg., Baton Rouge, La.—Bids Jan. 27 for washed and screened gravel, 40% sand-clay gravel, reef shell, clam shell, crushed limestone, slag and sand, for February, 1931.

**Roads.**—State of Arkansas—Bids for 9 roads. See Construction News—Roads, Streets and Paving.

**Roads.**—State of Virginia—bids for 14 roads. See Construction News—Roads, Streets and Paving.

**Roads.**—State of Missouri—Bids for 47 roads. See Construction News—Roads, and Paving.

**Road.**—Maryland. See Construction News—Roads, Streets and Paving.

**Water Works.**—City of Hammond, La., C. C. Carter, Mayor.—Bids Feb. 3 for furnishing and laying water mains within corporate limits of city and for installation of 1000 gal. dual drive fire pump or making repairs on present pump and engine now in use; information on application to Henry T. Richardson, City Engr.

**Well Drilling Equipment.**—City, Bd. of Water Comms., Jas. Sheahan, Gen. Supt.,

Memphis, Tenn.—Bids Jan. 21 for drilling engine, draw works or hoist, all steel rotary, steel (roller type) sprocket chain, duplex pumps, 3-sheave steel traveling or casing block, crown block, tool joints, rotary swivel, etc., grief stem, swivel hook, steel bushings, 4-in. pipe light weight side door elevators, wrought iron pipe elevators, 2½-in. Fair-Mannington type, locomotive type portable boilers, etc.

#### Joint Selling Plan Announced

The Blue Ridge Glass Corporation, Kingsport, Tenn., recently announced a new method of selling its products, embracing rough, rolled and wire glass. Products of the company are now sold in conjunction with those of the Libbey-Owens-Ford Glass Co., Toledo, Ohio. A special sales division of the latter will be organized under supervision of W. R. Crawford, whose headquarters are now at Toledo. The joint selling plan effects no change in ownership of the two companies, each remaining a separate entity.

## INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers, whether they are advertisers, or subscribers, or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

#### Masonite Corporation Appointments

The Masonite Corporation, Chicago, manufacturers of insulation and wallboard, have appointed John J. Gillies general manager; R. G. Wallace, director of sales and advertising, and Frank L. Campbell, sales manager, all with headquarters in the general offices of the corporation at 111 W. Washington street. Mr. Gillies formerly was vice-president of the Utilities Gas & Electric Company, Chicago, and in his new position succeeds Brown Katzenbach, who will remain with the corporation as vice-president and director.

#### Advertising Service

Land & Viehman announce the opening of offices at 719 Plaza Building, Pittsburgh, Pa., for an advertising service based on broad experience and a policy of close personal relationship. C. J. Land, formerly of Bissell & Land, Inc., Pittsburgh, has had varied experience in handling industrial and technical advertising.

**Referenda and Diary.**—The Smith-Dixon Company division, Baltimore, of the Whitaker Paper Company, has issued an attractive referenda and diary book of vest-pocket size bound in black leather and stamped in gilt. In addition to 1930 and 1931 calendars, the book contains other useful information.

#### Free Expanding Inso Lath

The Stewart Inso Board Corporation, St. Joseph, Mo., manufacturers of Inso board insulation from wheat straw, announce an improved plaster base, a free-expanding Inso Lath. The new product is said to provide for a free expanding plaster base by permanent expansion spaces, removing danger of cracks, bulges and warping. It is a sound-proofing material and also is made from wheat straw.

#### Michael Art Bronze

Activities of the Michaels Art Bronze Co., Inc., Covington, Ky., in wrought iron and lighting fixture products, embrace imported and hand wrought combinations of iron and brass, fabricated into single and double hung gates, andirons, curtain rods, console tables, bridge and floor lamps and stair lamps. The company also has made lamp standards for post offices and plans to fabricate large cast bronzes, as well as wrought bronze and iron fixtures.

#### General Manager of Sales

The Reading Iron Company, Reading, Pa., announces appointment of F. W. Deppe, formerly district sales representative at St. Louis, as general manager of sales, with offices at 230 Park avenue, New York.

#### Electric Railway Equipment

Electrical equipment for 1020 cars worth approximately \$7,000,000 has been sold by the Westinghouse Electric & Manufacturing Company during the past 20 months. This equipment was sent to 31 cities in 19 states and included city surface cars, suburban, interurban, subway and elevated cars and trolleys. Figures do not include sales to Canada. In interurban service, the cars have scheduled speeds up to 52 miles an hour, with certain types doing 80 miles.

#### 1931 Calendars

Additional calendars for 1931 have been received from: Meyer & Thalheimer, Baltimore, manufacturing stationers, printers and engravers; O. J. Maigne Company, New York, Philadelphia and Washington, manufacturers of printers' rollers; Walter H. Flood & Company, chemical engineers, of Chicago, Ill., and Jackson, Miss.; R. D. Cole Manufacturing Company, Newnan, Ga., manufacturers of towers and tanks, standpipes, boilers, stacks and steel plate construction; Florida Power & Light Company, Miami, operating utilities from Pensacola to the Florida Keys; the McClintic-Marshall Company, Pittsburgh, Pa., steel manufacturer and construction; the Thornton Fire Brick Company, Clarksburg, W. Va., manufacturers of paving, face, fire, sewer, acid and common brick, together with hollow building tile, and J. S. Steele & Sons, Statesville, N. C., manufacturers of clay working machinery.

### World Cotton Crop Larger

The world cotton crop for the season beginning August 1, 1930, is estimated at 26,400,000 bales of 478 pounds net, by the Bureau of Agricultural Economics, U. S. Department of Agriculture, as compared with 26,300,000 bales produced in the season beginning August 1, 1929.

The crop this year, the bureau points out, is only 2,000,000 bales less than in 1926 when the largest crop on record, 28,400,000 bales, was grown. The total world crop is computed on the basis of statistics for the United States and twelve foreign countries which indicate a combined production of 22,434,000 bales this year as compared with 22,885,000 bales last season.

The bureau reports that the cotton crop in Russia is the largest on record, being 1,950,000 bales this season compared with 1,351,000 bales last season.

Production in practically all countries other than the United States and Egypt shows an increase this year over last. No figures are available for China, but according to cables to the bureau from its agricultural commissioner in Shanghai, the prospects are for a larger crop on the whole in that country, although in some sections the crop is lower than production last year.

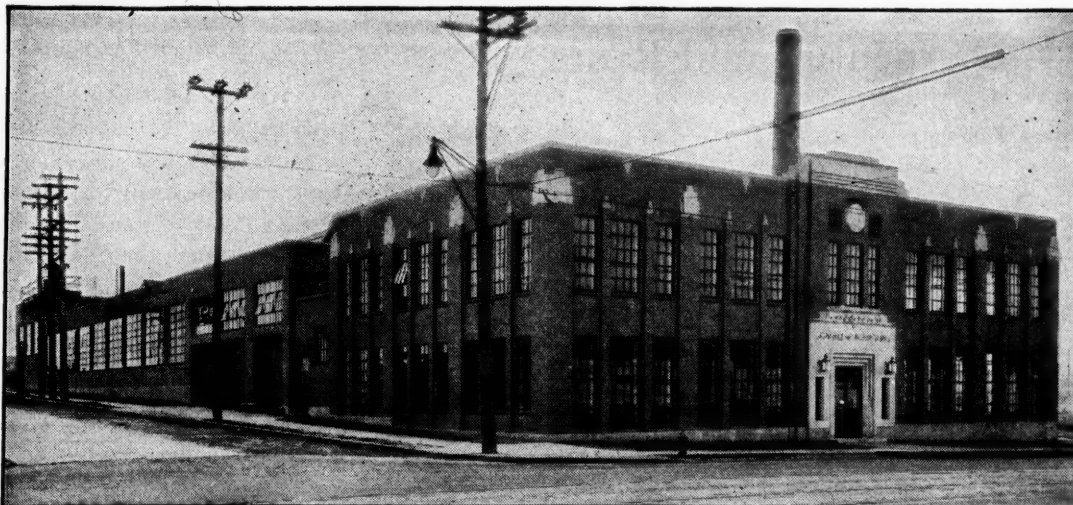
The total cotton acreage planted this season is estimated at 82,300,000 acres for all countries, excluding China, an increase of 400,000 acres over last season's area.

### Plans Unique Musical Program

Natural Bridge, Va.—For a period of two years, Natural Bridge of Virginia, Inc., has lighted the bridge with various stage effects involving about 7,000,000

candle power of light and power, producing many fanciful stage settings around and under the bridge and in the gorge beyond. A complete musical program has now been developed and arrangements made with a New York composer to write a symphony accompanying the changing lights and producing effects. Based on experiments which are said to show the possibility of turning almost a quarter of a mile of cliff into a tremendous musical instrument, unique and marvelous results are looked for. To carry out the program, improvements to cost about \$50,000 will be made, the work being handled by the Western Electric Co. in collaboration with the Graybar Electric Co., Inc., the Bell laboratories and the Musical Recording Department associated with this group. Natural Bridge of Virginia, Inc., is also building a convention hall and dance pavillion.





General Fire Extinguisher Company Philadelphia

# 60% Increase in Industrial Construction...

**WE** ARE now doing 60% more construction work for industrial companies than we were a year ago, indicating that many manufacturers are taking advantage of present favorable construction conditions to build replacements and new plants.

Construction costs are lower today than at any time during the past eight years. Out-of-date manufacturing facilities may be replaced now at lower cost than formerly.

During the past twelve months we have served the following companies, among others, performing both engineering design and construction in many cases, and in others building from the plans of the client's own engineers or architects:

## UNITED ENGINEERS & CONSTRUCTORS, INC.

### combining

Day & Zimmermann  
Engineering & Construction Co.  
Dwight P. Robinson & Co., Inc.  
The U. G. I. Contracting Co.  
Public Service Production Co.  
United Engineers & Constructors  
(Canada) Ltd.  
Dwight P. Robinson & Company  
of Argentina, Inc.  
Dwight P. Robinson & Company  
of Brazil, Inc.



### Design and Construct

INDUSTRIAL PLANTS  
STEAM POWER STATIONS  
HYDRO-ELECTRIC  
DEVELOPMENTS  
RAILROAD WORK  
GAS PLANTS

### Build

APARTMENTS  
HOTELS  
OFFICE & MONUMENTAL  
BUILDINGS

American Can Company  
American Potash & Chemical Corporation  
Barber Asphalt Company  
Commercial Pigments Corporation  
Crane, Limited  
Dominion Coal Company, Limited  
General Fire Extinguisher Company  
Gulf Refining Company  
Illinois Steel Company  
National Tube Company  
Pittsburgh Plate Glass Company  
R. C. A. Communications, Inc.  
John A. Roebling's Sons Company  
Roessler & Hasslacher Chemical Company  
St. Joseph Lead Company  
Susquehanna Pipe Line Company  
Westinghouse Electric & Manufacturing Company

Our services as construction engineers—to execute both engineering design and construction or to build from the plans of other engineers or architects—are available to those contemplating new manufacturing, warehouse or power facilities.

## UNITED ENGINEERS & CONSTRUCTORS

INCORPORATED

DWIGHT P. ROBINSON, PRESIDENT

PHILADELPHIA  
LOS ANGELES

NEW YORK  
MONTREAL

NEWARK  
TORONTO

BOSTON  
BUENOS AIRES

CHICAGO  
RIO DE JANEIRO

**MAXIMUM RETURN TO CLIENTS PER DOLLAR INVESTED**

## Turpentine and Rosin

The total value of products shipped or delivered during the crop year ended March 31, 1930, by establishments in the United States engaged primarily in the distillation of turpentine and rosin from crude gum is announced by the Census Bureau as \$36,776,000, a decrease of 7.8 per cent as compared with the crop year ended March 31, 1928, the last preceding census year.

The total quantities of turpentine and rosin distilled from gum reported for 1929-30 were as follows: Turpentine, 31,507,716 gallons; rosin, 1,976,425 barrels of 500 pounds, gross. In addition, wood-distillation plants reported the production of 4,329,727 gallons of turpentine and 478,555 barrels of rosin during the calendar year 1929.

### SUMMARY FOR THE INDUSTRY: 1929 AND 1927

(Statistics in this table refer only to those establishments distilling turpentine and rosin from crude gum)

	Crop year ended March 31	
	1930	1928
Number of establishments.....	1,204	1,149
Wage earners (average for the year).....	40,843	37,913
Wages.....	\$15,193,000	\$16,953,054
Cost of materials, containers for products, fuel and purchased electric current.....	\$10,556,000	\$12,173,394
Value of products.....	\$36,776,000	\$39,902,971
Value added by manufacture.....	\$26,220,000	\$27,729,577

## Census of Cotton Goods Manufactures

THE total value of cotton goods manufactured in the United States in 1929 was \$1,484,639,071, of which \$1,480,359,719 was contributed by establishments engaged primarily in the manufacture of these commodities, and \$4,279,352 by establishments engaged primarily in other lines of manufacture, reports the Census Bureau.

The production for the country as a whole in 1929 was as follows: Woven goods over 12 inches in width, 8,207,887,912 square yards, valued at \$1,129,386,379; cotton yarns for sale, 623,440,414 pounds, \$246,377,235; thread, 19,687,215 pounds, \$31,553,809; cotton waste for sale, 434,339,156 pounds, \$32,320,762; other products, \$45,000,886. The leading items entering into the total for woven goods were the following: Sheetings, 1,675,800,190 square yards, valued at \$145,-

327,094; print cloth, 1,641,122,024 square yards, \$117,386,900; cord fabric for tires 225,253,874 pounds, \$99,267,577; denims, 248,024,774 square yards, \$49,674,643; napped fabrics, 332,353,895 square yards, \$48,594,365; ounce duck (except tire), 185,820,946 square yards, \$48,539,686; reps, poplins, and broadcloths, 314,388,741 square yards, \$41,455,527; drills, 324,381,894 square yards, \$39,795,049; shirting, made entirely of cotton, 268,713,901 square yards, \$39,398,491; twills and sateens, 288,648,881 square yards, \$38,067,700; plushes, velvets, and velvet-eens, 49,125,410 square yards, \$37,475,976; draperies (except velvets and plushes), 213,789,748 square yards, \$36,803,398; towelings and wash cloths, 171,780,412 square yards, \$34,611,336; fabrics, (other than shirtings and draperies), in chief value of cotton, con-

taining rayon, 111,361,202 square yards, \$28,246,794; lawns, nainsooks, cambrics, and similar muslins, 228,983,406 square yards, \$25,663,039; fabrics entirely or in chief value of rayon, 86,652,996 square yards, \$24,314,400; gingham, 147,359,086 square yards, \$17,946,708.

Detailed figures, by States, are not available yet for 1929, but the 1927 census showed the South to be producing 67 per cent of the cotton goods of the United States.

The cotton-goods industry embraces mills engaged primarily in any of the processes preparatory to spinning, in spinning, and in weaving piece goods over 12 inches in width. Manufacturers of cotton knit goods are not included.

### Cotton Small Wares

The total value of cotton small wares produced in 1929 by manufacturers in the United States was \$61,557,456. The items comprised in this total are as follows: Elastic webbing, \$24,961,139; nonelastic webbing, \$12,095,403; shoe and corset laces, \$6,189,492; belting for machinery, woven with fast edges, \$3,527,178; woven labels, \$1,742,601; other woven cotton small wares, \$9,630,437; other braided cotton small wares, \$3,411,305.

Of the 1929 total, \$60,049,361 was contributed by establishments in the industry—those engaged primarily in the manufacture of cotton small wares—and \$1,508,095 by establishments engaged primarily in other lines of manufacture.

Establishments in this industry manufacture as their principal products, woven cotton fabrics not over 12 inches in width and cotton braids of every description.

### PRELIMINARY SUMMARY FOR THE INDUSTRY

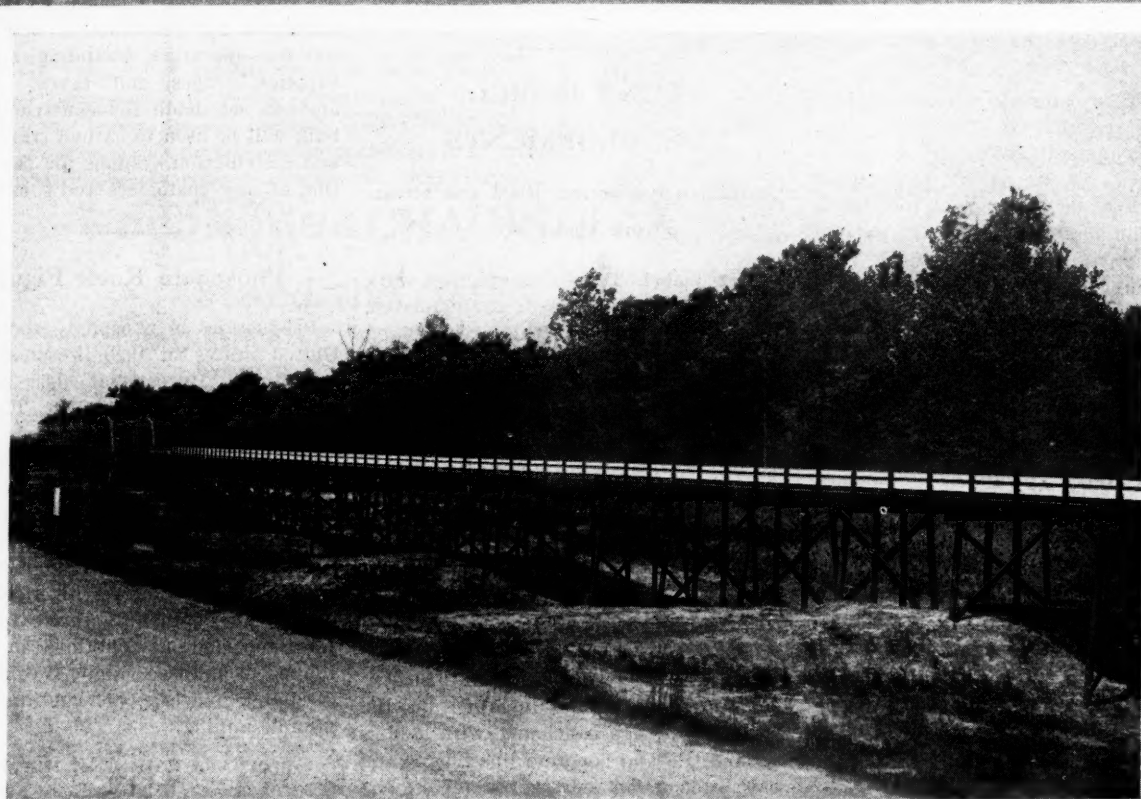
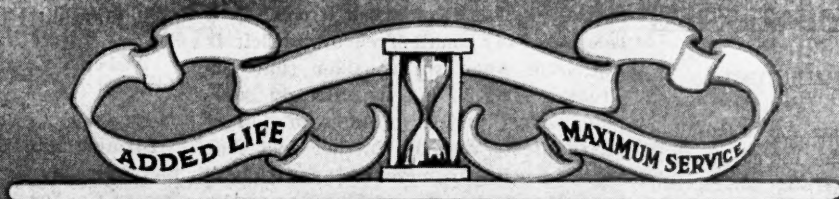
	1929	1927	Per cent of increase(+) or decrease(-)
Number of establishments.....	1,259	1,347	- 6.5
Wage earners (average for the year)*.....	428,128	467,506	- 8.4
Wages†.....	\$322,389,461	\$380,909,543	-15.4
Cost of materials, fuel and purchased electric current‡.....	\$885,843,509	\$871,591,901	+ 1.6
Products, total value§.....	\$1,502,998,464	\$1,567,400,612	- 4.1
Cotton goods.....	\$1,480,359,719	\$1,545,370,965	- 4.2
Other products, value and receipts for contract work.....	\$22,638,745	\$22,029,647	+ 2.8
Value added by manufacture.....	\$617,154,955	\$695,808,711	-11.3

\*Not including salaried employees. The average number of wage earners is based on the numbers reported for the several months of the year. This average somewhat exceeds the number that would have been required for the work performed if all had been continuously employed throughout the year, because of the fact that manufacturers report the numbers employed on or about the 15th day of each month, as shown by the pay rolls, usually taking no account of the possibility that some or all of the wage earners may have been on part time or for some other reason may not actually have worked the entire month. Thus in some cases the number reported for a given month exceeds the average for that month.

†Manufacturers' profits cannot be calculated from the census figures because no data are collected for certain expense items, such as interest on investment, rent, depreciation, taxes, insurance and advertising.

‡Value of products less cost of materials, fuel and purchased electric current.





### Lifetime Bridges

Bridges built of A & L Selected Pine Piling and Lumber, pressure treated with pure distillate creosote oil, give lifetime service, with a very low maintenance cost.

Illustrated is one of a series of bridges which have been built across the Saline River in Arkansas. One of these bridges is 3,332 feet long, required 676,365 Board Measure feet of A & L Treated Lumber and 22,464 lineal feet of A & L Treated Piling.

No. 25 "

## AYER & LORD TIE CO.

Railroad  
Cross Ties  
Lumber  
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INCORPORATED

CHICAGO

TREATING PLANTS

Bridge Timbers  
Car Stocks  
Piling & Posts  
Mine Timbers

Carbondale, Ill. Grenada, Miss. North Little Rock, Ark. Louisville, Ky. Montgomery, Ala.

"CREOSOTE OIL PREVENTS DECAY"

## Debt Reduction Beyond Sinking Fund Requirements

In considering the question of possible tax reduction, states the Bache Review, it is well to be reminded that during the last ten years the taxpayers have been paying into the Treasury a very much larger amount for the reduction of the Government debt than was required by law.

It must be called to mind that soon after the termination of the war Congress took up deliberately the consideration of what amount should be set aside each year out of Government receipts as a minimum sinking fund for the purpose of reducing the Government debt. The sinking fund was finally established.

If the Treasury had adhered strictly to the minimum retirement of the sinking fund as originally determined upon by Congress, it would have reduced the debt in the ten years under consideration by the amount of \$3,187,468,300 (Treasury report, published by Commercial & Financial Chronicle).

As a matter of fact, debt retirement has been effected during the ten years in an amount exceeding \$8,000,000,000.

It will thus be seen that around five billion dollars has been used to reduce the Government debt beyond the minimum requirements of the sinking fund established by Congress.

This excess of reduction has been in accordance with the policy of the Treasury and the Administrations.

Aside from that, it is fair to ask why the sinking fund should not be suspended in times like the present when business is bringing burdens enough, due to the depressed period through which we are passing. Especially may this question be asked when the sinking fund has been largely increased beyond minimum requirements, as shown above. Whether such payments, unnecessarily absorbing larger taxes, were wise or not, the country is certainly entitled to receive a present benefit and relief from taxation in these serious times.

The concrete application of this is in an argument for continuing the one per cent tax reduction which is being opposed. In Washington, suspension of sinking-fund payments is seen as the only possible way to provide for the one per cent tax reduction without incurring a heavy deficit. Government revenues, it is true, are running under 1929 due to the tax reduction in the fall of that year and the drop in customs receipts, and Congress is soon to be asked for large appropriations for unemployment relief.

But this is a temporary condition of things, and the rebound of business is

sure to correct them when it comes. A comparatively small Treasury deficit is negligible when we consider that the Treasury has in a sense already overpaid many hundred millions of dollars on the debts, and the further fact that this is no time to increase taxes. There is another fact to be considered; namely, that there is no real advantage to the public in retiring the debt further.

## PORT ISABEL DEVELOPMENTS

### Irrigation, Navigation, Road and Street Work Under Way

Port Isabel, Tex.—Construction work completed, in progress or contemplated, in and around Port Isabel, embracing irrigation, navigation, road, street and other projects, represents an ultimate outlay of several millions of dollars. Cameron County Water Improvement District No. 11 recently issued \$590,000 of bonds for the construction of an irrigation system and already has in operation facilities to serve more than 4000 acres of citrus lands. The system embodies the storage of water pumped from the Rio Grande River through a system of large ditches to resacas or old river beds which are used as reservoirs. Electrically-operated pumps installed on the river banks are connected with underground tile and concrete lined field laterals, each pump serving 160 acres. Expansion of irrigation and drainage facilities is being made as rapidly as the development companies owning the land require them.

An appropriation of \$1,000,000 of government funds has been recommended for constructing jetties and dredging a channel from Brazos Santiago Pass across Laguna Madre, with \$150,000 annually for maintenance. In addition, the San Benito-Port Isabel Navigation District has issued \$500,000 of bonds to establish terminal facilities, harbor sites, etc., which will be connected with the proposed channel. Funds in the amount of \$2,158,000 have been voted by Brownsville to connect a port site near that city by a channel to be dredged under the supervision of the Government, and it is understood that United States engineers will soon establish survey lines and that dredging may be under way within a few months.

A concrete highway has been completed into Port Isabel by the State Highway Department at a cost of \$245,000, while the Port Isabel Townsite Company has expended \$50,000 for paving two principal streets. Port Isabel recently voted a bond issue of \$300,000 for water works, sewage, sidewalks, curbing, streets, lighting and other facilities.

## \$10,000,000 POWER BUDGET

### Alabama Company Announces 1931 Program

Birmingham, Ala.—The construction and operating program of the Alabama Power Co. for 1931 will involve an outlay of approximately \$10,000,000, according to President Thomas W. Martin—\$5,000,000 for construction and \$5,000,000 for operation, including materials, supplies, wages and taxes. Of the amount set aside for construction, the bulk will be used to extend transmission and distribution systems for the connection of new customers and communities.

## Phosphate Rock Figures

Production of phosphate rock in the United States in 1929 is announced by the Census Bureau at 3,828,623 long tons, valued at \$12,943,857. This is an increase of 92.5 per cent and 25.8 per cent, respectively, as compared with 1919, the last preceding census year for which data were collected for mines and quarries by the bureau. Phosphate rock, a natural phosphate of lime, mined principally for use as fertilizer or as an ingredient of manufactured fertilizers, was reported as obtained in Florida, Idaho, Tennessee and Wyoming, by dredging, placer, open-cut and underground mining.

### SUMMARY FOR THE INDUSTRY

	1929	1919
Number of enterprises..	25	48
Salaried employees and wage earners:		
Salaried employees...	271	374
Wage earners (average)	3,170	4,373
Principal expenses:		
Salaries .....	\$617,527	\$761,423
Wages .....	\$3,123,393	\$3,900,966
Supplies, fuel and purchased electric current .....	\$3,492,606	\$3,980,802
Contract work .....	\$20,936	\$183,696
Horsepower rating of power equipment:		
Aggregate .....	133,122	49,639
Per wage earner....	42.0	11.4
Phosphate rock mined:		
Tonnage .....	3,828,623	1,988,975
Value .....	\$12,943,857	\$10,292,990
Ratio (per cent) of wages to value of phosphate rock.....	24.1	37.9
Ratio (per cent) of supplies, fuel and purchased electric current to value of phosphate rock .....	27.0	38.7
Expenditures for development (included in principal expenses)...	\$153,514	\$353,237

## Borings for \$865,000 Building

Washington, D. C.—The Treasury Department, Jas. A. Wetmore, Acting Supervising Architect, opens bids January 19 for test boring for the new \$865,000 building to be erected here for the Public Health Service. The structure will be 3 stories and basement, with marble and limestone exteriors. J. H. De Sibour, Washington, is the architect.



**SULPHURIC ACID  
SUPERPHOSPHATE  
TRIPLE SUPERPHOSPHATE  
MANGANESE SULPHATE**

*Manufactured and Distributed by*

**The Davison Chemical Co.**

Main Office, Baltimore Trust Bldg., Baltimore, Md.

Main Plant, Baltimore; Pyrites Deposits Cienfuegos District, Cuba; Phosphate Rock Plant, Southern Phosphate Corporation, Bartow, Florida.

Fertilizer Plants: Maryland 11; Virginia 9; Pennsylvania 10; Georgia 2, Ohio 2; North Carolina 11; South Carolina, Mississippi, Louisiana, Texas, Indiana, West Virginia, Tennessee, Connecticut and New Jersey 1 each.

**WOODHOUSE CHAINS**  
TRADE MARK REGISTERED  
**Stand the Gaff**  
**WOODHOUSE CHAIN WORKS**  
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Watch your Watchman

CLOCKS for the OFFICE, FACTORY,  
SCHOOL and HOME

**L. E. KAISER KLOCK CO.**  
221 N. Liberty St. Baltimore, Md.

*Let us send you a relief clock and repair yours*

*The 1931*  
**BLUE BOOK  
OF  
SOUTHERN  
PROGRESS**

*Now in course of preparation*

**T**HE Blue Book of Southern Progress should be in the hands of all who want to keep posted on what the South is doing. Business executives, bankers, financiers, investors, etc., will find valuable facts and statistical information in the 1931 edition.

*We invite cooperation through extensive purchasing of copies and through representation in the advertising pages.*

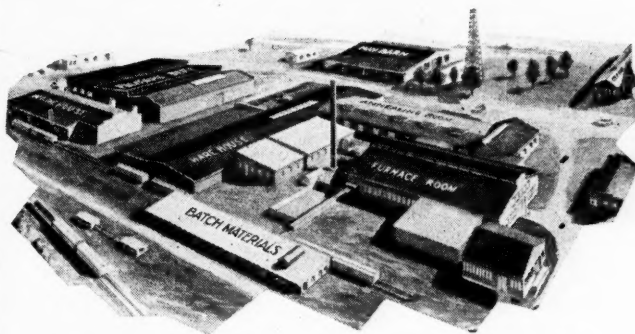
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Baltimore Maryland

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and the  
SOUTHWESTERN**



FACTORY AND GENERAL OFFICES: OKMULGEE, OKLA.

**I**N the past ten years, a large number of new industries of the South and West have added to this territory permanent assets of value beyond conception, in the way of modern industrial enterprises, housed in modern well lighted industrial buildings of the latest and finest types, and daylighted by **SOUTHWESTERN** products, especially manufactured for industrial purposes.

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distributor in your  
territory.*

**SOUTHWESTERN  
SHEET GLASS CO.**  
OKMULGEE,  
OKLAHOMA

# FINANCIAL NEWS

## Bond Issues Proposed

Fla., Bartow—Griffin School Dist. of Polk County voted \$12,500 school bonds. 12-18

Ky., Greensburg—Green County may issue bonds for erecting county building.

Ky., Ludlow—City recently voted \$30,000 incinerator bonds. 10-30-30

La., Alexandria—Rapides Parish School Bd., W. J. Avery, Sec.-Treas., opens bids Feb. 10 for \$75,000 Rigolette School Dist. No. 11 bonds. 11-13-30

La., Plaquemine—Iberville Parish School Bd., L. P. Terrebonne, Sec., opens bids Feb. 3 for \$120,000, not to exceed 6% \$1000 denom. bonds.

La., Shreveport—Caddo Parish Police Jury will issue \$65,000 jail building bonds to be sold Feb. 16.

La., Wisner—City. R. A. Brown, Mayor, defeated \$25,000 water works system bonds. 12-4

Miss., Biloxi—City. J. J. Kennedy, Mayor, plans special election on bonds for building docks and dredging Biloxi Channel into Back Bay.

Mo., Jefferson City—State Bd. of Fund Commrs., Larry Brunk, State Treas., opens bids Jan. 21 for \$5,000,000, 4%, \$1000 denom. bonds.

N. C., Asheville—Runcombe County Commrs. will issue \$1,940,000 new notes for renewal of notes which came due in November and December.

N. C., Canton—Canton Graded School Dist., A. J. Hutchins, Sec., Bd. of Trustees, opens bids Jan. 20 for \$15,000, not to exceed 6%, \$1000 denom. bonds.

Okla., Chickasha—City. J. L. Larson, Mayor, votes Jan. 20 on \$193,000 bonds for water works.

Okla., Checotah—City voted water system bonds.

Okla., Sayre—City recently defeated water works system bonds. 12-18

S. C., Greenville—City. Greater Greenville Sewer Dist. Comsn., plans election on Parker Dist. sewer bonds.

Tenn., Lawrenceburg—Lawrence County, L. N. Lumpkins, Supt. of Schools, adopted resolution asking Legislature to allow court to issue \$30,000 for 2 schools at Iron City and West Point.

Tenn., Memphis—City. D. C. Miller, Clk., opens bids Jan. 27 for \$1,250,000, 3½, 3%, 4, 4½, 4¾ or 5% revenue notes, series of 1931.

Tenn., Rogersville—City Council will seek from Legislature right to issue \$15,000 bonds for doubling city's water supply.

Tenn., Woodbury—Cannon County voted \$20,000 bonds for acquiring rights-of-way for highway, Woodbury to Coffee County line.

Tex., Austin—State, Ross Sterling, Governor, may vote on amendment to constitution authorizing issuance of \$200,000,000 bonds for constructing and maintaining roads.

Tex., Big Lake—Reagan County defeated \$275,000 road bonds. 12-18

Tex., New Braunfels—City. H. A. Treisch, Mayor, votes within 30 days on \$35,000 bonds for bridge over Comal River.

Tex., Pampa—Gray County Road Dist. No. 5 votes April 4 on \$1,600,000 bonds.

Tex., Pharr—City. G. B. Fleming, Mayor, immediately sell \$270,750 refunding and street improvement bonds.

Tex., San Antonio—San Antonio Bd. of Education, Paul H. Scholz, Business Mgr., opens bids Jan. 20 for \$1,750,000, 4½%, \$1000 denom. San Antonio Independent School Dist. building and improvement coupon bonds. 1-1

Tex., Seminole—Gaines County indefinitely postponed election on \$150,000 highway construction bonds. 1-8

Tex., Sherman—City. J. A. Henderson, City Clk., opens bids Jan. 26 for \$90,000, 5% school bonds. 12-18

Tex., Stratford—Stratford Independent School Dist. voted \$75,000 school building bonds.

Tex., Wharton—City votes Jan. 20 on \$65,000 bonds: City hall, \$25,000; water works, \$15,000; paving, \$25,000.

Va., Cape Charles—Northampton County School Bd., Helen E. Lowe, Clk., opens bids

Jan. 20 for \$10,000, \$1000 denom. refunding bonds.

Va., Richmond—City Council considering issuing \$300,000 bonds for James River development.

W. Va., Parkersburg—City. Allen C. Murdoch, Mayor, votes Mar. 3 on \$1,095,000 bonds; \$445,000, public improvements and establishing public equipment; \$350,000 paving; \$300,000 enlarging water works system and storm sewers. 1-8

W. Va., Wheeling—Ohio County votes Jan. 29 on \$3,800,000 highway and street repair bonds.

## Bond Issues Sold

Ala., Butler—Choctaw County sold \$150,000, 5½%, \$1000 denom. coupon funding bonds to Steiner Bros., and Ward, Sterne & Co., both Birmingham.

Ala., Reform—City, reported, sold \$10,000, 6%, \$500 denom. water works bonds to Steiner Bros., Birmingham.

Ky., Foster—City sold \$1500, 5½%, \$150 denom. coupon Street improvement bonds to Foster Banking Co., at par.

La., Rayville—Richland Parish Sub-road Dist. No. 7 sold \$50,000 bonds to Continental Bank & Trust Co., New Orleans. 12-18

Miss., Clarksdale—Coahoma County sold \$200,000 highway bonds to Boatmen's National Co., St. Louis, Mo., and Commerce Securities Co., Memphis, Tenn., at 100.325. 1-1

Miss., Jackson—Hinds County Supvrs. sold \$140,000 Series E, 5% courthouse bonds to Merchants Bank & Trust Co., Jackson. 12-18

Mo., Clayton, St. Louis—Brentwood School Dist., St. Louis County, sold \$18,000, 6% bonds to Mississippi Valley Co., St. Louis, at 105.02.

Mo., Triplett—Town sold \$70,000, 5% road bonds to Mississippi Valley Co., St. Louis, at 101.05.

Mo., Webb City—City sold \$61,000, 4½% school refunding bonds to Mississippi Valley Co., St. Louis, at par.

Tex., Meridian—Bosque County Road Dist. No. 11 sold \$10,000, 5% bonds to T. G. McDonald, Houston, at 92.00.

## Building & Loan Associations

Ga., Macon—Franklin Savings & Loan Co., capital \$100,000, chartered; W. H. Sorrell, Houston Road.

## New Financial Corporations

Mo., Mountain Grove—Agricultural Credit Corp., C. H. Duvall, Pres., capital \$25,000, applied to State Finance Dept., Jefferson City, for charter.

N. C., Franklin—Bank of Macon County, capital \$50,000, chartered; W. A. Rogers, C. F. Moody.

N. C., Tryon—Dr. E. E. Misseldine, Julian Hester, J. A. Dennis and associates organizing bank.

Tex., Waxahachie, Tex.—Citizens National Bank in Waxahachie, capital \$150,000, chartered; R. W. Getzendaner, Pres.; J. N. Langsford, Cashier.

W. Va., Iaeger—Bank of Iaeger, capital \$25,000, chartered; E. W. Cook, H. Bishop; plans assuming liabilities of closed First National Bank.

Farmers' Bank of Southwest Virginia, R. L. Pierce, Pres., and First National Bank, S. B. Campbell, Pres., both Wytheville, Va., consummated merger; Dr. C. W. Gleaves, president new bank.

Bank of Osceola, J. L. Williams, Pres., Osceola, Ark., doubled capital stock.

Bank of Picayune, E. F. Tate, Pres., and Pearl River County Bank, E. Rowlands, Pres., both Picayune, Miss., authorized to merge by State Banking Dept., Jackson; E. F. Tate to be president.

City Guaranty Bank, D. S. Wolfinger, Pres., and Home State Bank, W. M. English, Pres., both Hobart, Okla., merged.

Citizens' Bank, J. E. Huffman, Pres., and Farmers' National Bank, Ben D. Kingree, Pres., both Shelbyville, Tenn., merged as First National Bank of Shelbyville.

First National Bank, J. Lee Robinson, Pres., Gastonia, plans reopening.

First National Bank, H. E. Scott, Pres., and Marengo County Bank, Wm. Cunningham, Pres., both Linden, Ala., merged to form First National Bank of Linden.

First National Bank, H. M. McAden, Pres., Charlotte, N. C., plans reopening.

Greenville Banking & Trust Co., E. G. Flanagan, Pres., Greenville, N. C., and Bethel Banking & Trust Co., M. O. Bount, Pres., Bethel, N. C., merging.

Lewis Investment Co., George Lewis, Pres., 841½ Minnesota St., Kansas City, Mo., increasing capital stock, \$30,000 to \$200,000.

M. E. Singleton, Telephone Bldg., St. Louis, Mo., acquired substantial interest in Citizens National Bank, T. A. Ferris, Pres., Waxahachie, Tex.

Planters' Trust & Savings Bank, W. P. Holland, Pres., Clarksdale, Miss., plans reopening.

Stamford State Bank, F. E. Morrow, Pres., and First State Bank, Dallas Southard, Pres., both Stamford, Tenn., merged.

Trimble Banking Co., L. W. Thompson, Pres., and Farmers' Bank, C. E. Garner, Pres., both Trimble, Tenn., consummated merger.

## 1930 Electric Sales

A review of the electrical industry by John Liston, in the General Electric Review for January, estimates the number of incandescent lamps sold in 1930 at 563,778,000. Toward the close of the year, there were added to the line of inside frosted lamps the 150, 200, 300 and 500-watt sizes which had previously utilized only clear glass, and a pre-focused spot lamp was developed for theater spot light service. A new development in the field of photography is a photoflash lamp which is said to operate equally well on any voltage from 1.5 to 125 volts.

## Cement Plant Wins Safety Trophy

With more than 500 employees and an annual production capacity of nearly 20,000,000 sacks of cement, the Pittsburgh (Pa.) plant of the Universal Atlas Cement Company, Chicago, Ill., a subsidiary of the United States Steel Corporation, has the distinction, it is said, of being the largest cement plant in the country ever to win the annual safety trophy offered by the Portland Cement Association. In addition to a perfect score for 1930, the plant had no accident after September 3, 1929, thus attaining a continuous safety record for 484 days, according to E. D. Barry, assistant operating manager.

**Financial Statements.**—A booklet covering financial statements in annual reports to stockholders of certain industrial and mercantile companies has been issued by the Policyholders Service Bureau of the Metropolitan Life Insurance Company, New York. It is one of a number of publications issued by the Bureau in the interest of better management in business.

**Cotton Facts.**—The fifty-fifth edition of Cotton Facts, an annual publication issued by the Shepperson Publishing Co., Inc., New York, contains numerous tables and other data covering the American cotton crop and the crop of other countries. A feature of the current edition is a review of the cotton season 1929-1930 and prospects for the season 1930-1931.



**WE** extend the facilities of our organization to those desiring information or reports on companies with which we are identified.

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**WE PURCHASE ISSUES OF SPECIAL ASSESSMENT BONDS  
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ACCOUNT CONSTRUCTION COSTS SUCH ISSUES**

CORRESPONDENCE WITH US INVITED

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Our experience and success warrant our wanting to identify this bank further with the business and progress of the South.

Inquiries about our service will be treated as coming from friends.

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26 South Street, Baltimore Md.

Capital and Surplus \$1,350,000.00

Member Federal Reserve System

**We Buy Bonds**  
City, County, School and Road from  
Municipalities and Contractors

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THE PROVIDENT SAVINGS BANK & TRUST CO.  
CINCINNATI OHIO

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BALTIMORE, MD.

W. O. GAY H. D. MONTGOMERY G. C. DEMOREST  
CITY AND COUNTY NOTES  
COMMERCIAL PAPER

COLLATERAL LOANS

**W. O. GAY & CO.**

Est. 1894

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Delaware Corporations  
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Estimates of Cost Furnished Without Cost  
**DELAWARE REGISTRATION TRUST CO.**  
100 West Tenth Street  
Wilmington, Del.

J. Ernest Smith, President and General Counsel,  
Chas. Warner Smith, Vice-President,  
Harry W. Davis, Secretary and Treasurer.

## Manufacturers

You are invited to utilize our industrial and engineering services on factory establishment or relocation. Complete reports on industrial advantages in areas served by our properties . . . All negotiations confidential and gratis. Address Industrial Development Department.

**Associated Gas and Electric System**

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New York City

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Manufacturing

**BANK AND COMMERCIAL STATIONERS**

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**CHARACTER**

**QUALITY**

— SERVICE —

## REAL ESTATE NEWS

### Tax Exemption for New Dwellings Suggested

The Industrial Commission  
of  
Baton Rouge.  
Baton Rouge, La.

*Editor Manufacturers Record:*

The more I have thought of the suggestion to exempt taxes on new homes, as published in your January 1 issue, the more far-reaching seem the possibilities to be derived from such a movement. Aside from encouraging real estate and giving employment to the building trades, it would make possible the putting out on mortgages of surplus money now with insurance companies. It means new furniture and other household goods, draperies, etc., because after all, it is the people who live in homes who create the demand for everything grown and manufactured in this country, and in all manufactured articles today there are surpluses. If the bulk of this were taken up it would immediately create a demand for more and one can readily see the thousands that would be employed within the circle.

The cities, by ordinance, could enact laws exempting new dwellings from taxation; state and county officers could do likewise and ask each legislature meeting subsequently to confirm such action, and by so doing cause no embarrassment or hardship to any community, as the time for such activity would extend only over a period of six months. It should start immediately in order that it may do the greatest good when most needed. The five-year exemption is certainly an incentive to build now instead of waiting a year or two.

GEO. B. ELTON,  
Industrial Commissioner.

### Building Changes Ownership

Greenville, S. C.—The Peoples National Bank, as trustee, has conveyed title to the Chamber of Commerce building here to the Southeastern Life Insurance Co., which provided funds to erect the structure in 1923. It is understood that title soon will be re-conveyed by the insurance company to a syndicate composed of Haynsworth & Haynsworth, Dr. Curran B. Earle, E. A. Gilfillin, Fred W. Symmes and C. O. Milford. The building was erected under a plan by which the lives of members of the Chamber of Commerce were insured. The Chamber of Commerce, however, gave up the building some time ago and ownership reverted to the company furnishing the funds. In the meantime outside interests acquired control of the insurance company, the Peoples National Bank

serving as trustee in that deal. Interests about to acquire the structure are said to have no plans for a change in its administration.

### Making Land Profitable for Investment

The News and Observer, Raleigh, N. C., calls attention to an Associated Press survey of a situation confronting states which have legislative sessions scheduled for January, indicating the problem of taxation is uppermost in the minds of the legislators. Referring specifically to North Carolina, the News and Observer states that it is incumbent on the legislature to prospect for new sources of revenue which will permit the counties to reduce the excessive taxation with which real estate is now encumbered, and that a readjustment of taxation, with relief to overburdened land, "can make North Carolina a safe and profitable investment for North Carolina money."

### \$1,011,000 Building Lease

Dallas, Tex.—An aggregate rental of \$1,011,000 is involved in leases and subleases on a one-story and basement building at Elm and Akard streets in this city, for a period of 15 years, as announced by Pat Murphy & Co., realtors. The Walgreen Co. will take possession of the property January 1, 1932, and remodel it for a drug store, with the Castle Millinery Company occupying space for the full term of the Walgreen lease. Space in the building will be occupied also by J. Gambulous for a lunch room; J. B. Klenitorium for a cleaning and pressing establishment, and Berrino & Carbone for a shoe store.

### Stockholders May Buy Building

Charlotte, N. C.—Certain stockholders of the First National Bank, now in the hands of receivers, may purchase the 20-story bank building rather than permit it to be sold at a low figure, it is stated here. R. C. Anderson, Montreat, N. C., who is actively interested in plans to protect the assets of the bank, so intimated and his attitude is reflected in a statement of J. M. Logan, receiver, who says that the comptroller of the currency will co-operate with stockholders to get the highest possible figure for the building. Plans for the re-organization of the bank are said to be under way.

### REAL ESTATE SURVEY

Prices Remain Stable in One-Fourth  
of Cities Reporting

Washington, D. C.—Data as to price movements, building supply, money supply for real estate development, interest rate trends, subdivision activity and general real estate activity are presented in the sixteenth semi-annual survey of the real estate market of the National Association of Real Estate Boards. The survey shows that in almost one-fourth of the 349 cities covered by the survey, prices for real estate have remained stable notwithstanding the decline in general commodity prices, and that in general cities of 500,000 or more population show a predominance of capital seeking investment, while smaller cities show a decreasing predominance, and cities of 25,000 population show a predominance of investment opportunities seeking capital. Interest rates for mortgage investments in 76 per cent of the cities reporting are where they were a year ago, and more cities report rising rates than falling rates, although in cities of 200,000 population and over twice as many report falling rates. Seventy-four per cent of the cities report a normal supply of one-family residences, but rentals for this class of dwellings appear to be less stabilized than rentals for apartments. Business property has been adversely affected by the depression, outlying properties more so than central properties.

More activity in the real estate market is shown in 14 per cent of the cities and less activity in 58 per cent, marked variations appearing in different sections of the United States. The market was reported more active in 49 per cent of the cities of the south Atlantic section and 30 per cent of the cities in the Mountain section, while 75 per cent of the cities in the East North Central section reported less activity, as did 68 per cent of the cities in the West South Central section and 73 per cent in the East South Central section. A shortage of one-family dwellings was reported in 14 per cent of the cities reporting, with 12 per cent reporting an oversupply. A normal supply of apartments was reported in 67 per cent of the cities, while 18 per cent reported a shortage and 15 per cent an oversupply. Office rentals on centrally located properties were reported the same in 68 per cent of the cities, with lower rentals in 31 per cent, and in outlying office buildings, rentals were reported the same for 58 per cent of the cities and lower in 42 per cent.



# REAL ESTATE OFFERINGS

## FOR SALE—APPLE ORCHARD

In heart of the apple belt of Georgia. 40 acres, 600 trees, 22 years old, in good condition; 600 trees, 8 years old; 25 plums, 25 peaches, 10 cherries, all bearing. Will pay 8% on the investment now. Good improvements: house, barns, fine water wells, two good springs and branch running water. 5 acres in cultivation, close to market, packing houses, 2 miles; all spray tools and equipment for \$12,000, terms and long time to pay. Fine citizenship, schools, churches. Just the place for some one that wants to retire in the foot hills of the Blue Ridge Mountains in the finest all year climate. Electricity, hard roads.

**S. E. DAVIDSON**

67 Lafayette Drive

Atlanta, Ga.

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Let us serve you when in need of Choice Business or Commercial Properties

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## FOR SALE

### Factory Site and Buildings

Parcel of land situated in the Royce-Lansdowne district, Toronto, Canada, containing approximately 4 acres of improved land and Canadian National and Canadian Pacific Railway sidings, with brick mill buildings containing approximately 110,000 square feet of manufacturing space. For full information and price, apply to

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15 Wellington St. West, Toronto 2.

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The A. & W. P.—W. Ry. of Alabama and Georgia Railroads traverse a territory rich in material and potential resources. Attractive industrial sites. For information apply:

### Commercial and Agricultural

Dev. Dept.—Above Lines

Atlanta, Georgia

**IF YOU WANT TO GET—**  
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**MANUFACTURERS RECORD**

## To the MANUFACTURER and DISTRIBUTOR

Abundant supplies of coal, coke, iron, timber and other raw materials lie in the regions of Georgia and Alabama, which are traversed by the

## Central of Georgia Railway

Cheap electric power, numerous undeveloped water-powers, good home markets and excellent shipping facilities. Therefore, manufacturing conditions are ideal.

Many of the cities on the Central of Georgia Railway occupy advantageous positions for distributing warehouses, and a number of the larger northern and eastern manufacturers supply their southeastern trade from branch houses in these cities.

Full and detailed information upon application.

**J. M. MALLORY, General Industrial Agent**

413 West Liberty St.

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*For every purpose on*

## The East Coast of FLORIDA

From the lands owned by the Model Land Company, of the Flagler System, along the Florida East Coast there is no doubt a location can be selected suitable for your purpose.

*Let us know your requirements*

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**Model Land Co., Flagler System**  
St. Augustine, Florida

*The late Henry M. Flagler and his organizations  
have served Florida since 1886.*

## Real Estate Securities Said to Have Fewer Ups and Downs Than Other Investments

The Mortgage Bankers Association of America, Chicago, sharply criticizes what it terms "unscrupulous 'sharpshooters'" among bond brokers, likening their operations to those of the "most vicious bear raiders on Wall Street" and declaring their tactics tend to lower the prestige of real estate bonds and force investors to sell below true values. It refers to findings of the Securities Division of the state that false rumors are circulated as to the stability of real estate mortgage bonds and thereafter those persons responsible for the rumors are able to pick up valuable bonds from uninformed investors for securities that are worthless or of low value. Leonard P. Reaume, president of the National Association of Real Estate Boards, is commended for a warning recently given to investors through the real estate boards of the country, citing the good standing of the greater portion of real estate bond issues and declaring that real estate securities, in the past ten years, have had fewer ups and downs than other investments with comparable yields of income. It is recited that some building equity owners shrewdly plan to buy their own outstanding obligations at 50 to 75 cents on the dollar and thereby reap big financial benefits from properties upon which the bonds have been issued. The Association declares that indications point to an unmistakable improvement in real estate values and rentals that should encourage holders of mortgages and mortgage bonds rather than discourage them.

## Land Tax Burden Too Heavy, Say Real Estate Men

The burden of taxation is reducing the number of small home owners, bringing about a general shrinkage in realty values, driving money from the state and resulting in foreclosures of city and farm property, according to a report of the taxation committee of the Georgia Real Estate Association, Atlanta, and adopted by the officers of the association.

The report calls on all real estate brokers and owners to get behind a program for a reduction of land taxes in Georgia.

The full program is as follows:

A classification tax on property at varying rates; elimination of the five-mill tax on property by the state, leaving it to be taxed by local governments only; consolidation of the numerous state bureaus and taxing agencies; enactment of an income tax for state purposes only; the merger of many city and county governments; adoption of a budget system and economy in government, and the creation of a permanent tax commission.

## \$951,000 Building Contract

Oklahoma City, Okla.—General contract to erect an extension and remodel the post office and courthouse building here, has been awarded by the Treasury Department, Jas. A. Wetmore, Acting Supervising Architect, Washington, to DeVault & Deitrick, Inc., Canton, Ohio, at \$951,532. Elevator contract was awarded to the Washington branch of the Otis Elevator Co., New York, at \$46,600.

Raleigh, N. C.—The City Commission approved tentative plans by H. P. S. Keller and A. J. Maxwell, Jr., Raleigh, for a \$500,000 War Memorial auditorium to be erected on the Centennial School grounds. The structure would have a seating capacity of approximately 5000.

## Where the First Mate is Climate

### Cargoes Move Swiftly

Nature gave Norfolk one of the finest harbors in the world. As if to make sure that this great harbor could be utilized to the fullest, a lavish Providence has added the permanent endowment of ideal climate for shipping. *Norfolk is Climate's home-port.*

At Norfolk it is "shipping weather" all the year. The immense anchorage grounds of wide, calm waters are ever ice-free. The mean annual temperature is 59.4 degrees with remarkable freedom from extremes of heat and cold. The average tide variation is only 2½ feet. There are few fogs and no snows of consequence. 59% of daylight hours are sunny.

To this priceless natural endowment has been added every possible mechanical and physical means for the expeditious handling of traffic. There is berthing space

for more than 50 ocean-going craft. There are approximately 10,000,000 square feet of covered warehouse space, and trackage space for more than 5,000 freight cars. Tracks run to shipside. From the piers, eight trunk-line railways radiate over thousands of miles of track, connecting with the principal markets of the East, South, North, and Middle West. More than fifty steamship lines serve the Port, with frequent sailings to all parts of the world. There is express steamship service at freight rates to Baltimore, Washington, New York, Philadelphia, and New England ports.

The world of commerce has learned the prime importance and consequent profit of seeing that merchandise moves *Speedily, Safely, and Surely*. Small wonder then that in the same space of time in which the foreign commerce of the Nation increased 70% that of Hampton Roads increased 400%. Such facts deserve your further consideration.

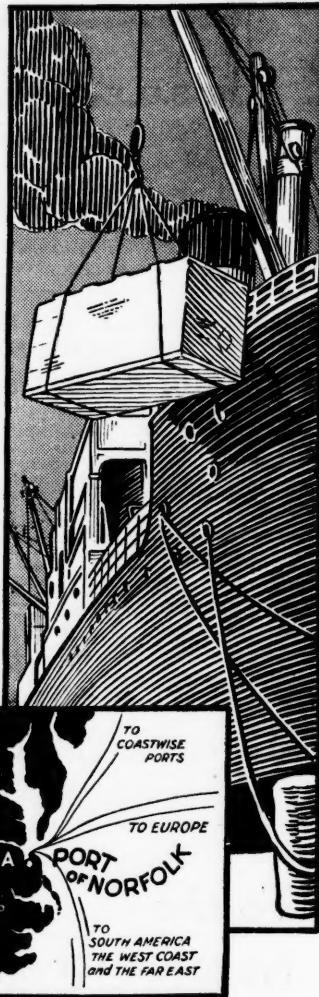
### NORFOLK PORT-TRAFFIC COMMISSION

NORFOLK, VIRGINIA



**PORT of NORFOLK**  
WHERE CLIME AND TIDE WAIT ON MAN

Write for illustrated Booklet and further information on the Port of Norfolk.





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# ALABAMA'S

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state docks constitute one of the most modern and complete port terminal systems in the United States. Constructed at a cost of \$10,000,000, this ocean terminal was formally dedicated in June, 1928. The docks are open to all users alike—to all shippers and shipping lines, and to all railroads through the Terminal Railway, Alabama State Docks. The docks have a total of 10,565 lineal feet, or two miles of concrete wharves, with water alongside for vessels of 30-foot draft. Covered floor space in shipside transit sheds and warehouses totals 1,086,300 square feet, or 25 acres. All buildings are of reinforced concrete and steel and are equipped with automatic sprinkler systems. Eighteen modern steamships can dock at one time.\*

\*Extract from a comprehensive survey prepared by the Alabama Industrial Development Board. Copies of this survey will be mailed free of charge to executives of responsible enterprises. Address: Alabama Industrial Development Board, Brown-Marx Building, Birmingham, Ala.

*This advertisement published through the courtesy of the Alabama Power Company, whose New Industries Division is actively cooperating with the Alabama Industrial Development Board in finding profitable locations for new enterprises in Alabama.*

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# Announcing the BLUE BOOK OF SO

*A* SPLENDID advertising opportunity is afforded those interested in developing business in the South and Southwest.



The Blue Book of Southern Progress has a wide circulation among the country's leading executives, professional men, railroads, public utility operating and holding companies, banks, bond houses, and public officials in states, counties and municipalities, and among commercial and business organizations generally.



It meets the growing demand for information about the South and is continuously referred to. Nowhere else can there be obtained such complete data in handy reference form for the busy executive and professional man. It is a recognized authority on all questions relating to Southern resources and development.



## Advertising Rates:

1 page....\$200.00      1/2 page....\$110.00      1/4 page....\$65.00

*The trimmed size of the pages—6" x 9"; type size—4 1/2" x 7 1/2".*



# e 1931 Edition of the SOUTHERN PROGRESS

## AN ADVERTISING OPPORTUNITY

AN all-time building and industrial construction record was set by the South in 1930. This expansion precedes the fulfillment of the prediction that the next 25 years belong to the South.

*Over \$250,000,000 was expended for natural gas pipeline construction in 1930.*

*Over \$600,000,000 will this year be expended for roads, bridges and street improvements.*

*Following textile, rayon and paper expansion the South is developing a great chemical industry. It is to become the center of cellulose using plants.*

*Food preserving, canning and food freezing plants are supplemental to its ice and cold storage facilities.*

*Industrial decentralization and fuller utilization of raw materials and mineral resources are stimulated by a vast network of interconnected power lines. Natural gas for fuel and power is being made available throughout the South. Adequate distribution facilities are to be found in its great railroad systems, supplemented by waterways, highways and airways. Expansion in each of these keeps pace with the South's growth in industry and commerce.*

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*Orders for space reservations should be sent promptly.*

## MANUFACTURERS RECORD

Baltimore,

Maryland.



# PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS



Bids close January 17, 1931.

U. S. Engineer Office, 300 Custom House, Baltimore, Md. Sealed proposals will be received here until 3 P. M., Eastern Standard Time, January 17, 1931, and then publicly opened, for dredging an extension to the Riverview Anchorage to the northeast of Fort McHenry section of channel leading to Baltimore; material estimated to measure 2,749,778 cubic yards.

Bids close February 6, 1931.

Sealed Bids, in duplicate, will be received at the U. S. Engineer Office, Rock Island, Illinois, until 11 A. M., February 6, 1931, and then publicly opened, for furnishing all labor and materials and performing all work for the enlargement of existing levee and for the construction of new levee in the Bay Island Drainage and Levee District No. 1, Illinois. Further information on application.

Bids close January 22, 1931.

U. S. Engineer Office, Jacksonville, Fla.—Sealed bids, in duplicate, will be received here until 12 noon, January 22, 1931, and then opened, for furnishing all labor and materials and performing all work for dredging approximately 502,000 cubic yards of material other than rock and 75,000 cubic yards of rock in Sparkman Channel, Tampa Harbor, Fla. Further information on application.

Bids close January 17, 1931.

U. S. Engineer Office, 300 Custom House, Baltimore, Md. Sealed proposals will be received here until 3 P. M., Eastern Standard Time, January 17, 1931, and then publicly opened, for dredging approximately 4073 cubic yards of material, place measurement, at mouth of Nandua Creek, Va., 38,690 cubic yards at mouth of Occohannock Creek, Va., and 33,440 cubic yards from waterway from Tangier Sound to Ewell (Smith Island, Md.)

Bids close January 26, 1931.

U. S. Engineer Office, Jacksonville, Fla.—Sealed bids, in duplicate, will be received here until 12 noon, January 26, 1931, and then opened, for furnishing all labor and materials and performing all work for dredging approximately 137,000 cubic yards of material other than rock and 274,000 cubic yards of rock in turning basin of Miami Harbor, Fla. Further information on application.

Bids close January 17, 1931.

U. S. Engineer Office, 300 Custom House, Baltimore, Md. Sealed proposals will be received here until 3 P. M., Eastern Standard Time, January 17, 1931, and then publicly opened, for dredging approximately 41,490 cubic yards, place measure, in Elk River, Md., 47,120 cubic yards in Claiborne Harbor, Md., 10,486 cubic yards in Choptank River, Md., at Pealliquor Shoal, and 11,132 cubic yards in Herring Bay and Rockhole Creek, Maryland.

Bids close January 27, 1931

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., December 27, 1930.—Sealed bids, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., January 27, 1931, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, etc., at Dillon, S. C. Drawings and specifications, not exceeding one set, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$15.00 is made for the set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States, JAS. A. WETMORE, Acting Supervising Architect.

## GENERAL INFORMATION

### About Proposal Advertising in Manufacturers Record

PUBLICATION DAY: Thursday.  
FORMS CLOSE: 10 A. M. Tuesday.

When too late to send copy by regular mail to reach us by 10 A. M. Tuesday, forward by night letter or air mail when possible.

### THE DAILY CONSTRUCTION BULLETIN OF THE MANUFACTURERS RECORD

Published every business day, gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Construction Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened or when daily insertions are necessary to meet legal requirements.

*The rate is the same for both publications—35 cents a line each insertion.*

Bids close January 17, 1931.

U. S. Engineer Office, 300 Custom House, Baltimore, Md. Sealed proposals will be received here until 3 P. M., Eastern Standard Time, January 17, 1931, and then publicly opened, for dredging approximately 297,200 cubic yards of material in Wicomico River, Maryland.

Bids close January 17, 1931.

U. S. Engineer Office, 300 Custom House, Baltimore, Md. Sealed proposals will be received here until 3 P. M., Eastern Standard Time, January 17, 1931, and then publicly opened, for dredging in Cutoff-Brewerton Angle and part of the Brewerton section of channel leading to Baltimore, material estimated to measure 1,714,606 cubic yards.

Bids close February 6, 1931.

Office of Public Buildings and Public Parks, Room 1031, Navy Building, Washington, D. C. Sealed bids will be received until 11 A. M., February 6, 1931, for the construction of an office building for the American Red Cross. This building will be approximately 228 by 62 feet, with five stories, attic and basement, and will be constructed of structural steel and reinforced concrete with marble exterior. All mechanical work is included. A deposit in the form of a certified check for \$100 will be required to secure plans. Further information upon application.

### Notice to Prospective Bidders in the Matter of Jacksonville, Florida, \$2,000,000.00 Refunding Bonds, for Sale January 20, 1931.

Jacksonville, Fla.

On account of the inability to print these bonds until after the rate of interest they shall bear, and the fiscal agent of the city at which they shall be payable, have been determined between the successful bidder and the City on January 20, 1931, DELIVERY OF SAID BONDS will be made to the successful bidder at the office of the City Commission, Jacksonville, Florida, at 10 o'clock A. M. on

FRIDAY, JANUARY 30, 1931,

instead of on Wednesday, January 21, 1931, as stated in the "Notice of Sale" heretofore given.

ST. ELMO W. ACOSTA,  
Chairman.

Attest:  
M. W. BISHOP,  
Secretary.

Bids close January 17, 1931.

U. S. Engineer Office, 300 Custom House, Baltimore, Md. Sealed proposals will be received here until 3 P. M., Eastern Standard Time, January 17, 1931, and then publicly opened, for dredging to a minimum depth of 36 feet at mean low water over a width of 150 feet on the north side of Curtis Bay section, and also maintenance dredging in the existing channel from Fort McHenry section to and including the turning basin at the inner end, and widening at the inner angle between the inner harbor and the Ferry Bar section of channel to Baltimore, Md., to a minimum depth of 35 feet; amounting to approximately 1,452,410 cubic yards of material.

Bids close January 20, 1931.

### Sale of \$10,000 Northampton County, Virginia Refunding School Bonds

Cape Charles, Va.

By order of the School Board of Northampton County, Virginia, approved by the Board of Supervisors of the said County, sealed bids will be received by Helen E. Lowe, Clerk of said School Board, at Cape Charles, Northampton County, Virginia, until January 20, 1931, at 12 o'clock M., for all or any part of \$10,000; the said bonds to be in the denomination of \$1000 each and payable \$1000 on each March 15th from 1932 to 1941, inclusive, with coupons attached for the semi-annual payment of interest, said bonds to be dated and money furnished on March 15, 1931; both principal and interest being payable at the office of the Treasurer of Northampton County, Capeville, Virginia, or at the Farmers & Merchants Trust Bank, Cape Charles, Northampton County, Virginia, at the option of the holder. These bonds are to be issued for the refunding of \$10,000 Capeville District 6% school bonds, maturing March 15, 1931, which were issued pursuant to Chapter 34 of the Code of Virginia, 1919.

The right to reject any or all bids is reserved by the School Board.

HELEN E. LOWE,  
Clerk, School Board,  
Northampton County, Virginia.

Bids close January 20, 1931.

### Bridge

STATE OF MARYLAND  
STATE ROADS COMMISSION

NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for building a bridge as follows:

Frederick County, Contract No. F-158-53—Steel and Concrete Bridge (approximately 145 feet, between end bents) over the tracks of the Baltimore and Ohio Railroad Company, at Frederick Junction, including all the necessary earth approaches, surfacing, etc., will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Streets, Baltimore, Maryland, until 12 M. on the 20th day of January, 1931, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans, will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 29th day of December, 1930.

G. CLINTON UHL, Chairman.  
L. H. STEUART, Secretary.



Bids close January 27, 1931.

**Roads and Bridges**

Richmond, Va.  
Sealed bids will be received January 27, 1931, office of the Va. Dept. of Highways, Richmond, Va.

Proj.	Type	Surface	Excava. C. Yds.
66	12 Mi. Conc.	81,000	34,891
286	2 Mi. Soil	7,116	28,903
438	2 Mi. Gravel	6,547	38,831
450	10 Mi. Gr. & Dr.		348,989
472	1 Mi. Mac.	13,200	43,500
525	5 Mi. Mac.	59,507	58,486
603	4 Mi. Mac.	63,000	58,993
641	2 Mi. Mac.	25,743	58,790
644	8 Mi. Soil	26,414	130,743
646	0.9 Mi. Gr. & Dr.		23,441
657	7 Mi. Gr. & Dr.		182,900
687	6 Mi. Mac.	78,039	79,796

**BRIDGES**

Proj.	Span	C. Yds. Conc.	Lbs. Steel
13	1-35 ft.	226	11,510
18	3-35 ft.	342	34,245
588	2-20 ft.	197	3,060
656	3-20 ft.	211	17,220

Details obtainable upon request.

Bids close January 20, 1931.

**Maryland Highway Work**

STATE OF MARYLAND  
STATE ROADS COMMISSION

**NOTICE TO CONTRACTORS**

Baltimore, Md.  
SEALED PROPOSALS for building one section of State highway as follows:

Wicomico County, Contract No. W-55-12—Federal Aid Project No. 221A—One section of State Highway from the end of Contract No. W-11 near Mardela Springs, toward Vienna, a distance of 1.55 miles (concrete)

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Sts., Baltimore, Maryland, until 12 M. on the 20th day of January, 1931, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 6th day of January, 1931.

G. CLINTON UHL, Chairman.  
L. H. STEUART, Secretary.

Bids close January 23, 1931.

**Excavation for Drainage**

Birmingham, Ala.

Sealed proposals will be received by the undersigned until ten o'clock A. M., Friday, January 23, 1931, for certain earth and rock excavation and rip-rap masonry which is proposed to be done by the City of Birmingham on Section Three of Village Creek draining project (from Avenue W, Ensley, to Tenth Street, West).

The approximate principal quantities being as follows: 149,200 Cu. Yds. Earth Excavation, 65,000 Cu. Yds. Rock Excavation and 700 Sq. Yds. Rip-Rap Masonry.

Specifications may be obtained and plans examined at this office. The right is reserved to reject any or all proposals.

A. J. HAWKINS,  
City Engineer.

Bids close January 26, 1931.

**Sanitary Sewer System**

Donaldsonville, La.

Sealed proposals will be received by the Commission Council at City Hall, Donaldsonville, La., until 11 A. M. January 26, 1931, for the construction of a complete sanitary sewer system for the City.

The work will include the furnishing of all labor, material and equipment necessary for the construction of approximately 12 miles of main and lateral sewers varying in size from 8 to 12 inches, 22,500 lineal feet of house sewer connections, 5550 feet of 12-in. cast-iron pipe outfall, a complete raw sewage pumping station, and all other work and appurtenances specified or required.

Plans and specifications are on file in the Mayor's Office, Donaldsonville, La., and in the office of James W. Billingsley, Consulting Engineer, Interstate Bank Building, New Orleans, where they may be examined free of charge. Copies of same may be obtained from the Consulting Engineer upon payment of \$10.00, which will not be returned.

Proposals must be submitted on the special form provided by the Consulting Engineer.

A certified check or cash in the amount of 5% of the total bid price, deposited in accordance with the terms and conditions of the Specifications, will be required of the bidder.

A bond in the amount of the total contract price will be required of the successful bidder.

The right is reserved to reject any or all bids and to waive technicalities.

SIDNEY A. MARCHANT,  
Mayor.  
JAMES W. BILLINGSLEY,  
Consulting Engineer.

Bids close January 26, 1931.

**Water Works**

Cloverport, Ky.

Sealed bids will be opened January 26, 1931, for complete construction and material including wells, pumps, reservoir, hydrants, etc. Approximate cost \$55,000. For Specifications write to O. E. Ferguson, M. D., Mayor, and Green Engineering Co., Paducah, Ky.

Bids close February 6, 1931.

**Airport Retaining Wall**

BOARD OF LEVEE COMMISSIONERS  
ORLEANS LEVEE DISTRICT,  
NO. 606 COMMON STREET,  
NEW ORLEANS, LOUISIANA.

New Orleans, La., Jan. 6, 1931.

Sealed proposals will be received at the office of the Board of Levee Commissioners of the Orleans Levee District, at New Orleans, La., Friday, February 6, 1931, at 12 o'clock noon, and then publicly opened, for furnishing all labor, material and equipment necessary for the construction of a concrete Retaining Wall and Auxiliary Work on the shore of Lake Pontchartrain, beginning at a point 1000 feet east of the center line of the Industrial Canal and terminating at a point about 5500 feet east of the point of beginning.

A deposit of Fifty Thousand Dollars (\$50,000.00) in cash or certified check will be required with each proposal.

When notarial contract is entered into, a surety bond in the amount of 50% of the cost of the contract will be required to be furnished by a Surety Company authorized to do business in Louisiana, to ensure the satisfactory execution and completion of the work.

Plans and specifications are on file in the office of the Board of Levee Commissioners of the Orleans Levee District at No. 606 Common Street, New Orleans, La., and will be furnished to prospective bidders upon payment of Fifty Dollars (\$50.00), which will be refunded upon the return of the same in good condition.

The right is reserved to reject any or all bids and to waive informalities.

For further information address John Klorer, Chief Engineer, Orleans Levee Board, No. 606 Common Street, New Orleans, Louisiana.

A. L. SHUSHAN,  
President.  
CHAS. J. DONNER,  
Secretary.

## CLASSIFIED OPPORTUNITIES

### MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

FOR SALE. Kaolin mine near Augusta, Ga. Virgin mine, wonderful quality, very white soft. Free from grit, shallow overburden. Finest refractory clay, ceramic, tile, china, rubber and paper. Test 3500 F. Near railroad. Has given perfect satisfaction. Terms. For further information address. J. C. Lamar, 405 Leonard Bldg., Augusta, Ga.

**MANGANESE DEPOSITS**

FOR SALE ONLY—Rich manganese deposits in Ala. near Birmingham.  
THE MIDVALE MINING & DEVELOPMENT CO.,  
W. H. Amerine, Secretary,  
Box 1121, Montgomery, Alabama.

**TIMBER AND TIMBER LANDS**

13,000 ACRES of hardwood timber land for sale at a great sacrifice.  
T. B. FINLEY,  
North Wilkesboro, N. C.

**FOR SALE**

Sound Square Edge Red and White Oak Timbers sawn to size.  
HOUSTON BROS., Vicksburg, Miss.

**Rates, Terms and Conditions**

RATES: 30 cents a line each insertion. Minimum space accepted, four lines. In estimating the cost allow six or seven words of ordinary length to line. When the advertisement contains a number of long words proper allowance should be made.

Rates for Special Contract:  
100 lines 28c a line  
300 lines 26c a line  
500 lines or more 25c a line

TERMS: For transient advertising cash with order; check, postoffice or express money order or stamps accepted.

On special contract advertising bills are rendered monthly, covering space used each month, payable within ten days.

CONDITIONS: No patent medicine, oil or mining stock advertisements or questionable or undesirable advertisements will be accepted. The assistance of our readers in excluding undesirable advertisements is requested. No display type used.

### MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

**TIMBER AND TIMBER LANDS**

ACREAGE BARGAINS—We have several desirable tracts; some are well stocked with fast growing pine timber. Many have enough advance growth to pay a good return on the investment above carrying charges during the holding period. Let us select the tract and manage it, taking our remuneration as a percentage of net earnings.  
THE JAMES D. LACEY COMPANY,  
1409 Barnett Bldg., Jacksonville, Fla.

**FARM LAND WANTED**

200 ACRES of cheap farm land on railroad for Nursery Southern Maryland.  
ARTHUR V. LEY,  
912 Grant Place, N. W.,  
Washington, D. C.

**FARM AND TIMBER LAND**

160 ACRES Oklahoma land, heavy timber, \$1.50 an acre. 30 acres cultivated \$8.75 an acre. Must sell at once.  
M. POWELL, Box 477, Muskogee, Okla.

## FARM, FRUIT AND TRUCK LANDS

## FLORIDA

**THIS IS BUYING TIME IN FLORIDA**—If you are in position to put money in a proposition that assures yearly interest and real profits within four years, write me. J. W. Tucker, 315 N. Ky. Ave., Lakeland.

## FOR SALE

Beautiful complete hundred acre Gulf Coast Island, finely located near good town, railroad, and highway. Rich soil, plenty trees, good shade. Delightful place for winter home. Bargain for quick sale. Address No. 9071, care Manufacturers Record.

## TEXAS

**LOWER RIO GRANDE** Valley orchards and acreage at actual value. Owner's price direct to you. Send for list. **ROBERTS REALTY CO.**, Realtors, McAllen, Tex.

**FARMS**—2000-acre improved with tenant houses, outbuildings; levee protected; pumping plant; benefit tax paid; gravel road; 6 miles out; easily financed. Plowman & Greenville, Hannibal, Mo.

## VIRGINIA PLANTATION

**MAPPED BY** Thomas Jefferson's father, 1755. Also by Patrick Henry's father. 1500 acres highly cultivated and 1500 acres in valuable timber. Fine hunting, deer, turkeys, etc. Nine miles Pamunkey River frontage. Good springs, fertile soil. Exquisite vista from Master Dwelling. Hard surface road from Federal Highway No. 1; 25 miles from Richmond. Ample barns. Fences well kept. Price \$90,000.

**BLAKE & DUDLEY, INC.**,  
RICHMOND, VIRGINIA.

## BUSINESS OPPORTUNITIES

**FOR SALE, REASONABLE**—Telephone business in good section of North Carolina on paved highway. If interested address No. 9064, care Manufacturers Record.

**WANTED** to trade large, fully equipped cleaning plant, with good business, including valuable real estate where plant is located in Greater New York City. Value altogether \$75,000, all free and clear of indebtedness, will trade for good property in South; on account health have to go South. Give full particulars when writing.  
P. O. Box 126,  
Long Island City, N. Y.

**BIDS ASKED**—The Florida **CONFIDENTIAL INDUSTRIAL BULLETIN** brings you advance listings of every bid or proposal asked by state, city, county or private interests, roads, bridges, general construction, schools, churches, dredging, drainage, irrigation, bonds, supplies, equipment, labor and materials. Send for free specimen copy. Florida Industrial Bulletin, Box 9118, Tampa, Fla.

## BUSINESS OPPORTUNITIES

**FOR SALE**—Small Brick and Drain Tile Plant. Also sawmill and timber tract. Good local market for clay products. Wm. Butz, Dover, Dela.

**LONG TERM LOANS**, large amounts, made on industrial, mercantile, sawmill properties. **THOS. W. GILMER**, Attorney, Bay Minette, Alabama.

**MANUFACTURERS**—Write for our **FREE** Classification Sheets of inventions for sale, covering 135 main subjects, and in one or more of which you will doubtless be interested. **ADAM FISHER MFG. CO.**, 578 Enright, St. Louis, Mo.

## INDUSTRIAL SURVEYS

**ENGINEERING REPORTS** on resources of cities and towns. Recommendations for industrial development and zoning made by specialists in locating industries.

**TECHNICAL SERVICE CO.**,  
Woolworth Building New York City

## INDUSTRIES WANTED

**WELL-LOCATED** Southern town wants industry. Will furnish plant, moving expenses, additional capital and other concessions.

**INDUSTRIAL SERVICE CORP.**,  
Asheville, N. C.

## INDUSTRIAL PLANTS

**FOR SALE**  
**SHEET METAL PLANT**  
fully equipped and operating. Sheets and angles available at mills here. Address  
**H. McDERMOTT**,  
P. O. Box 42, Birmingham, Ala.

## FACTORY SITES

**TWO AND ONE-QUARTER MILES** railroad frontage industrial sites for sale at Baton Rouge. Southern Land and Investment Company, Baton Rouge, La.

## PATENT ATTORNEYS

**FREE "PATENT PARTICULARS"**  
Sterling Buck, over 23 years Registered Patent Attorney. Prompt and thorough services. Suite M 629 F, Washington, D. C.

**PATENTS**—Booklet free. Highest references. Best results. Promptness assured. **WATSON E. COLEMAN**, Patent Lawyer, 724 Ninth St., N. W., Washington, D. C.

**SEYMOUR & BRIGHT**, Registered Patent Attorneys. Established 1876. **PATENTS, TRADEMARKS, COPYRIGHTS**. Prompt and thorough service. Suite 600-4, Barrister Building, Washington, D. C.

**PATENTS—TRADEMARKS—COPYRIGHTS**  
Charlotte office convenient to South. **PAUL B. EATON**, Registered Patent Attorney, 218 Johnston Building, Charlotte, N. C. and 314 McLachlen Building, Washington, D. C.

## REPRESENTATIVES WANTED

**A NEW CORPORATION** handling full line of Chemicals, Oils, Dyestuffs, Specialties, Industrial Paints, etc., wants capable representatives to sell on commission basis. Answer in detail, No. 9074, care Manufacturers Record, Baltimore, Md.

## AGENCIES WANTED

**WANTED**—To represent a manufacturer in North Texas—So. Oklahoma. Adequate warehouse; must be a product that moves. Willing to invest a reasonable amount. Write **G. A. JONES HDWE. Co.**, Denison, Tex.

## SITUATIONS WANTED

**TRAFFIC MANAGER** seeks connection with Shipper or Association; twenty years experience; thorough knowledge of Rate Adjustment, Claims, Complaints. No. 9072, care Manufacturers Record, Baltimore, Md.

**I WOULD LIKE** to have position with progressive firm as mill or plant supt., operating work or construction work. Would also consider sawing, either band or circular, mill foreman or millwright building or operating. Also operating with any large company with machinery. Address No. 9076, care Manufacturers Record, Baltimore.

**EXPERIENCED SALESMAN** with wide personal acquaintance among Architects, Contractors and Plumbing trade. Have covered Virginia, North Carolina, South Carolina, Georgia and Florida for five years as District Sales Manager for Nationally known manufacturer. Available immediately. Address No. 9078, care of Manufacturers Record, Baltimore, Md.

## MEN WANTED

**IF YOU ARE OPEN** to overtures for new connection and qualified for a salary between \$2500 and \$25,000, your response to this announcement is invited. The undersigned provides a thoroughly organized service of recognized standards and reputation, through which preliminaries are negotiated confidentially for positions of the caliber indicated. The procedure is individualized to each client's personal requirements, your identity covered and present position protected. Established twenty-one years. Send only name and address for details.  
**R. W. BIXBY, INC.**,  
103 Downtown Bldg. Buffalo, New York

## MACHINERY AND SUPPLIES

**ELECTRICAL MACHINERY.**  
For Sale—Motors and Generators, A.C. and D.C. New and Rebuilt. Attractive prices. Large Stock. Write for our Price List.  
**V. M. NUSSBAUM & CO.**,  
Fort Wayne, Ind.

**TO SELL**—Westinghouse D. C. Power Plant, 110 volts, with battery, 3 generators of 1500 watts each. In good and smooth operating shape. Being removed because Power Co. energy available. Will sacrifice. Address **H. J. PETTIT**, Suffolk, Va.



## RESALE DEPARTMENT

MACHINERY

EQUIPMENT

SUPPLIES



**FOR SALE**  
**WILL SACRIFICE**  
**LARGE INDUCTION**

**MOTORS FOR \$2.00 per H. P.**

- 1—225 H.P. Lincoln 500 RPM, 440v-3ph. 25 cy.
  - 2—250 H.P. Burke's 514 RPM, 440v-3ph. 60cy.
  - 1—250 H.P. Lincoln 600 RPM, 440v-3ph. 60cy.
  - 1—250 H.P. Gen'l E. 600 RPM, 2300-3ph. 60cy. type I form K.
- All with compensators, arranged for direct coupling, no rails or pulleys.

**Stewart Bolling & Co.**,  
1105 Chester Ave., Cleveland, Ohio

**Slashing Cut—**  
**Gregory Prices**  
**Lowest Ever!**

**Electric**  
**Motors**

on a Money-Back  
Guarantee

Save Money. Buy  
Now at Rock Bottom.  
Your choice of  
tremendous stock—  
all standard makes,  
all sizes, a.c. & d.c.  
and all **GREGORY**  
**HI-GRADE RE-**  
**BUILT "Good as**  
**New."**

Send for 80 page Bargain Sheet  
**GREGORY ELECTRIC CO.**  
1601 South Lincoln St. Chicago

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**OFFERS BIG BARGAINS IN**

Used and Rebuilt Engine Generator Sets, Turbo Generator Sets, Motors, Rotary Converters, Generators, Motor Generator Sets, Engines, Boilers, Steam and Electric Machinery of all kinds, also Machine Tools. Send for our new machinery list. Yours for the asking. Established 50 years.

**The RANDLE**  
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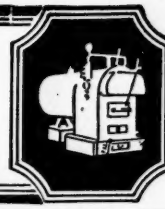


# RESALE DEPARTMENT

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## BOILERS AT \$2.00 PER H. P.

Butt Strap, High Pressure, H. R. T. Boilers.

- 8-150 H.P. 150 lbs. steam pressure, Atlanta, Ga.
  - 3-150 H.P. 150 lbs. steam pressure, Augusta, Ga.
  - 3-150 H.P. 150 lbs. steam pressure, Nashville, Tenn.
  - 6-150 H.P. 140 lbs. steam pressure, River Falls, Ala.
  - 4-150 H.P. 130 lbs. steam pressure, Lake, Miss.
  - 3-Springfield water tube boilers, 242 H.P. each, 175 lbs. steam pressure, Nashville, Tenn.
- These boilers must be moved immediately. We guarantee insurance at above pressure. Write or wire for details.

**W. M. SMITH & CO.**  
Box 1709 Birmingham, Ala.

## FOR SALE

Large stock of nipples and nipple machines, 1/2" to 4".  
1-90 H. P. Boiler. Built in 1929. Used only 6 months. Veneer machines, lathes, planers and other machinery.

**CHARLES B. IRWIN**  
Catherine St. & B. & O. R. R.,  
Baltimore, Md.

## WANTED.

- 1-H. R. T. Boiler approximately 200 H. P.
  - 1-Water Tube Boiler approximately 350 H. P.
  - 1-Each R. H. & L. H. Corliss Engine, 22" or 24" Cylinder Diameters.
- All in first class condition. Boilers must be guaranteed for 150 pounds insurable working pressure.

**T. M. FRANCIS,**  
435 Brown-Marx Building, Birmingham, Ala.

## FOR SALE

- 1-100 H.P. Fairbanks Morse Semi-Diesel Oil Engine, style "V", 2 cylinder, vertical. Complete with accessory equipment. Comparatively new. Price \$1500.00, New Jersey shipping point.

**CONSOLIDATED PRODUCTS CO., INC.**  
14-16 Park Row New York City  
BR 7-0600

**Machine Tools**  
**Power Equipment** **Boilers**  
**Electric Motors**

**DELTA EQUIPMENT CO.**  
148 N. 3rd St. PHILADELPHIA

## EQUIPMENT FOR SALE

Nordberg-Carels Diesel Engine—No. 30173. Type 3VE. 350 B.H.P. Speed 225. 3 Cylinder. General Electric A.C. Generator—No. 2540617. Type AT1. Amps. 675. Speed 225. P.F. .8. Kw. 225. 60 Cycles. 281 kv-a. 240 volts.

**NEW ICE COMPANY**  
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SATISFACTION

**ALBERT PIPE SUPPLY CO., INC.**  
NEW-RECLAIMED-USED

## PIPE

ALL SIZES CUT TO SKETCH  
AND STOCKED  
BERRY & NORTH 13th STS.  
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SERVICE

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**SECOND HAND**  
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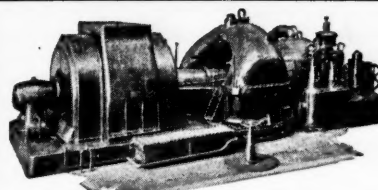
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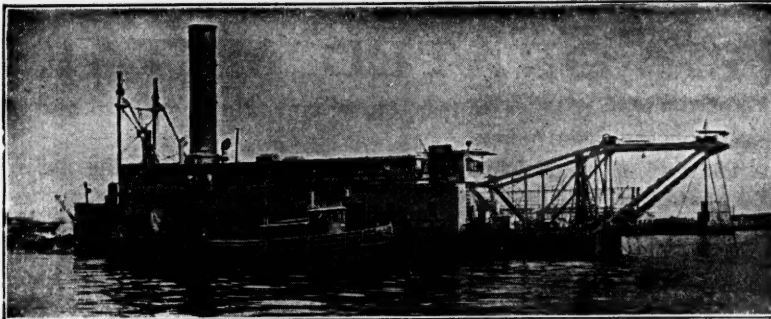
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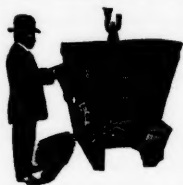
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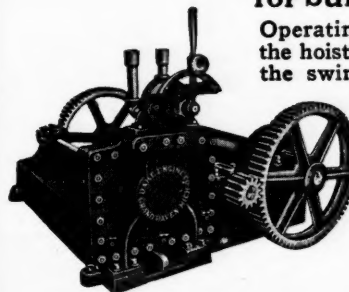
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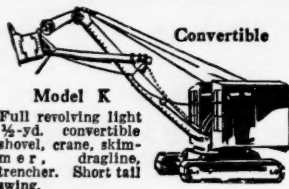
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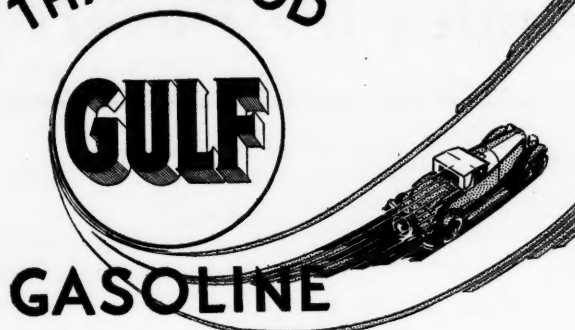
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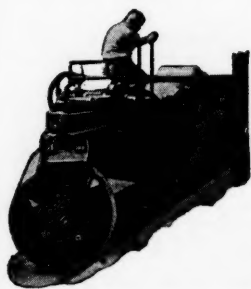
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Le Baron, E. T., Jacksonville, Fla.

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## —(Line Shaft.)

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## —(Oil.)

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## —(Used.)

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Virginia Bridge & Iron Co., Roanoke, Va.

## —(Track.)

Sweet's Steel Co., Williamsport, Pa.

## BOND BUYERS.

Garraway & Co., S. G., Chicago.

Hanchett Bond Co., Inc., The, Chicago.

Law & Co., A. M., Spartanburg, S. C.

Mercantile Trust Co., Baltimore, Md.

Norton & Co., John, Chicago, Ill.

Provident Savings Bank and Trust Co., Cincinnati, Ohio.

## BORINGS (Core.)

Kennedy-Kieffer Drilling Co., New York City.

Mott Core Drilling Co., Huntington, W. Va.

Pennsylvania Drilling Co., Pittsburgh, Pa.

Southern Drilling Co., Saltville, Va.

Sprague & Henwood, Inc., Scranton, Pa.

## BOXES (Paper.)

Old Dominion Box Co., Lynchburg, Va.

## BRAKE LINING

Palmer Asbestos & Rubber Corp., Chicago.

## BRASS GOODS.

Copper and Brass Research Assn., New York.

Mueller Co., Decatur, Ill.

## BRICK (Common Building.)

Friend & Co., Inc., Petersburg, Va.

## —(Fire.)

Dee Co., Wm. E., Oak Hill, Ohio.

North Amer. Refractories Co., Cleveland, O.

Taylor Sons Co., Charles, Cincinnati.

## —(Vitriified, Paving.)

National Paving Brick Mfrs. Assn., Washington, D. C.

## —and Clayworking Machy.

Steel & Sons, J. C., Statesville, N. C.

## BRIDGE (Asphalt Planking)

Servicised Products Corp., Chicago, Ill.

## —(Operating Machinery.)

Earle Gear & Machine Co., Phila., Pa.

## —Timber.

American Crosscutting Co., Louisville, Ky.

Kirby Lumber Co., Houston, Texas.

## BRIDGES (Concrete.)

Atlantic Bridge Co., Greensboro, N. C.

## —(Crescoted Wood.)

Atlantic Bridge Co., Greensboro, N. C.

## —(Steel.)

American Bridge Co., New York, N. Y.

Atlantic Bridge Co., Greensboro, N. C.

Belmont Iron Works, Philadelphia, Pa.

Bristol Steel & Iron Works, Inc., Bristol, Va.

Champion Bridge Co., Wilmington, O.

Converse Bridge & Steel Co., Chattanooga, Tenn.

Ingalls Iron Works Co., Birmingham, Ala.

International Derrick & Equipment Co., Columbus, Ohio.

McClintic-Marshall Co., Pittsburgh, Pa.

Nashville Bridge Co., Nashville, Tenn.

Virginia Bridge & Iron Co., Roanoke, Va.

## BRONZE (Architectural.)

Heath Company, J. S., Waukegan, Ill.

Michaels Art Bronze Co., Covington, Ky.

## BUBBLERS.

Rundie-Spence Mfg. Co., Milwaukee, Wis.

## BUCKETS (Clam Shell.)

Blaw-Knox Co., Pittsburgh, Pa.

Erie Steel Construction Co., Erie, Pa.

Hayward Co., The, New York, N. Y.

Industrial Brownhoist Corp., Cleveland, O.

Owen Bucket Co., The, Cleveland, Ohio.

## —(Dredging, Excavating, Sewer, etc.)

Erie Steel Construction Co., Erie, Pa.

Hayward Co., The, New York, N. Y.

Monaghan Mfg. Corp., Chicago, Ill.

Owen Bucket Co., The, Cleveland, Ohio.

Stuebner Iron Works, G. L., Long Island City, N. Y.

## —(Elevator.)

Hendrick Mfg. Co., Carbondale, Pa.

Webster & Weller Mfg. Cos., Chicago.

## —(Orange Peel.)

Hayward Co., The, New York, N. Y.

## —(Ore Handling.)

Hayward Co., The, New York, N. Y.

Owen Bucket Co., The, Cleveland, Ohio.

Stuebner Iron Works, G. L., Long Island City, N. Y.

## BUILDERS and Contractors.

Cowper Co., Inc., The John W., Richmond, Va.

Moyer Co., Tilghman, Allentown, Pa.

Thompson & Bros., T. C., Charlotte, N. C.

White Engineering Corp., J. G., New York.

## BUILDINGS (Industrial.)

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Blaw-Knox Co., Pittsburgh, Pa.

Butler Mfg. Co., Kansas City, Mo.

Edwards Mfg. Co., Cincinnati, O.

International Derrick & Equipment Co., Columbus, O.

McClintic-Marshall Co., Pittsburgh, Pa.

Nashville Bridge Co., Nashville, Tenn.

Truscon Steel Co., Youngstown, O.

Virginia Bridge & Iron Co., Roanoke, Va.

## —(Portable Sheet Metal.)

Butler Mfg. Co., Kansas City, Mo.

International Derrick & Equipment Co., Columbus, O.

## BULKHEADS.

Shore-Line Builders, Inc., Jacksonville, Fla.

Snare Corp., Frederick, New York, N. Y.

## BULLDOZERS.

Trackson Co., Milwaukee, Wis.

## BUSINESS METHODS.

Ernst & Ernst, New York, N. Y.

## CABLE (Elevator.)

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## —(Stud Link.)

Woodhouse Chain Works, Trenton, N. J.

## —and Wire (Electric.)

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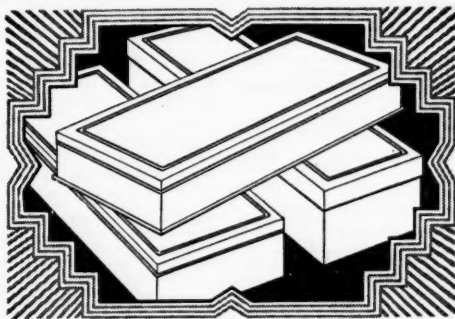


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Milcor Steel Co., Milwaukee, Wis.
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Alpha Portland Cement Corp., Birmingham, Ala.  
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Woodhouse Chain Works, Trenton, N. J.
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Southwestern Laboratories, Fort Worth, Tex.  
Stillman & Van Stien, New York.  
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Froehling & Robertson, Inc., Richmond, Va.
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Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.
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Davis-Paradis Watchman's Clock Corp., New York, N. Y.  
Kaiser Klock Co., L. E., Baltimore, Md.
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Newark Wire Cloth Co., Newark, N. J.
- CLUTCHES (Friction.)**  
Caldwell Co., Inc., W. E., Louisville, Ky.  
Wood's Sons Co., T. B., Chambersburg, Pa.
- COAL (Bituminous.)**  
Sloss-Sheffield Steel & Iron Co., Birmingham, Ala.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
- and Ash-Handling Mch.**  
Chain Belt Co., Milwaukee, Wis.  
Hayward Co., The, New York, N. Y.  
Industrial Brownhoist Corp., Cleveland, O.  
Northwest Engineering Co., Chicago, Ill.  
Webster & Weller Mfg. Cos., Chicago.
- Tipples.**  
American Bridge Co., New York, N. Y.  
Virginia Bridge & Iron Co., Roanoke, Va.
- COATINGS (Protective.)**  
Headley Emulsified Products Co., Philadelphia, Pa.
- COCKS (Service.)**  
Merco Nordstrom Valve Co., San Francisco, Calif.
- COKE.**  
Sloss-Sheffield Steel & Iron Co., Birmingham, Ala.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
- COLUMNS (Cast Iron.)**  
U. S. Pipe & Fdry. Co., Burlington, N. J.
- COMPRESSORS (Gasoline Extractions.)**  
Sullivan Machinery Co., Chicago, Ill.
- CONCRETE (Block Machinery.)**  
Blystone Mfg. Co., Cambridge Springs, Pa.
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Cement-Gun Co., Inc., Allentown, Pa.  
Cement Gun Construction Co., Chicago.  
Rust Engineering Co., Birmingham, Ala.
- Floor Slabs.**  
Federal-American Cement Tile Co., Chicago.
- Information Only.**  
Portland Cement Assn., Chicago, Ill.
- Mixers.**  
Blystone Mfg. Co., Cambridge Springs, Pa.  
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Dunning & Boschert Press Co., Inc., Syracuse, N. Y.  
Equipment Corp. of America, Chicago, Ill.  
Jaeger Machine Co., Columbus, Ohio.
- Pipe Machinery (See Pipe Machinery, Concrete.)**
- Placing Equipment.**  
National Equipment Corp. (Insley Division), Milwaukee, Wis.
- Roofing Tile.**  
Federal-American Cement Tile Co., Chicago.
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Ingersoll-Rand Co., New York, N. Y.  
Manistee Iron Works Co., Manistee, Mich.  
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.
- CONDUITS (Electric, Interior, Steel.)**  
Western Electric Co., New York, N. Y.  
Youngstown Sheet & Tube Co., Youngstown, Ohio.
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Snare Corp., Frederick, New York.
- (Drainage and Dredging.)**  
Arundel Corp., The, Baltimore, Md.  
Atlantic Gulf and Pacific Co., New York.
- (Electrical.)**  
Virginia Engineering Co., Inc., Newport News, Va.  
Walker Electrical Co., Atlanta, Ga.  
Warner Service Co., Knoxville, Tenn.  
Webb Electric Co., Anderson, S. C.
- (Foundations and Dams.)**  
Snare Corp., Frederick, New York, N. Y.
- (General.)**  
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Charleston Constructors, Inc., Charleston, S. C.  
Cornell Young Co., Inc., Macon, Ga.  
Cooper Co., Inc., John W., Richmond, Va.  
Fiske-Carter Constr. Co., Greenville, S. C.  
Gridley Constr. Co., Lee A., Knoxville, Tenn.  
Saville, Inc., Allen J., Richmond, Va.
- Smallman Construction Co., Birmingham.**  
Snare Corp., Frederick, New York, N. Y.  
Thompson & Bros., T. C., Charlotte, N. C.  
Tucker & Laxton, Charlotte, N. C.  
White Engineering Corp., J. G., New York.
- (Industrial Buildings.)**  
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Cooper Co., Inc., John W., Richmond, Va.  
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Tucker & Laxton, Charlotte, N. C.  
Virginia Engineering Co., Inc., Newport News, Va.  
White Engineering Corp., J. G., New York.
- Mill Village.**  
Hornbuckle Contracting Co., Atlanta, Ga.
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Jennings & Co., Floyd, Atlanta, Ga.
- (Power Piping.)**  
Poe Piping & Heating Co., Greenville, S. C.
- (Power Plants.)**  
Snare Corp., Frederick, New York, N. Y.  
Virginia Engineering Co., Inc., Newport News, Va.
- (Railroad.)**  
Cornell-Young Co., Inc., Macon, Ga.
- (Reinforced Concrete.)**  
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Cement Gun Construction Co., Chicago.  
Gunite Conc. & Constr. Co., Kansas City.  
Tucker & Laxton, Charlotte, N. C.
- (Road and Street Paving.)**  
Fiske-Carter Constr. Co., Greenville, S. C.  
Gridley Constr. Co., Lee A., Knoxville, Tenn.  
Hornbuckle Contracting Co., Atlanta, Ga.  
McCrory Co., J. B., Atlanta, Ga.  
Virginia Engineering Co., Inc., Newport News, Va.
- (Sewerage and Waterworks.)**  
Gridley Constr. Co., Lee A., Knoxville, Tenn.  
Hardaway Contracting Co., Columbus, Ga.  
Hornbuckle Contracting Co., Atlanta, Ga.  
McCrory Co., The J. B., Atlanta, Ga.  
Snare Corp., Frederick, New York, N. Y.  
Tucker & Laxton, Charlotte, N. C.  
Virginia Engineering Co., Inc., Newport News, Va.
- (Sprinkler System.)**  
Poe Piping & Heating Co., Greenville, S. C.
- (Water-Works.)**  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
- Machinery and Supplies.**  
(New.)  
Bay City Shovels, Inc., Bay City, Mich.  
Erie Steel Construction Co., Erie, Pa.  
W-K-M Co., Inc., Houston, Texas.
- Machinery and Supplies.**  
(Used.)  
Lima Excavator Sales Agency, Lima, Ohio.  
Marine Metal & Supply Co., New York.  
Phillips, Inc., Chester A., Chicago.  
Samler Mch. & Equip. Co., Baltimore.
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**Forgings.**  
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**Patterns.**  
**Sheet Metal Work.**  
**Structural Steel and Iron.**  
**Welding Plants.**
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Chain Belt Co., Milwaukee, Wis.  
Universal Crusher Co., Cedar Rapids, Ia.  
Webster & Weller Mfg. Cos., Chicago.
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Clark Tractor Co., Battle Creek, Mich.
- COST SERVICE.**  
Le Barre, E. T., Jacksonville, Fla.
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Continental Gin Co., Birmingham, Ala.
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National Equipment Co. (Insley, Kochring, Parsons), Milwaukee, Wis.
- Northwest Engineering Co., Chicago, Ill.**  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.
- (Cantilever, Gantry.)**  
Bedford Foundry & Machine Co., Bedford, Ind.
- (Crawler.)**  
Harnischfeger Corp., Milwaukee, Wis.  
Industrial Brownhoist Corp., Cleveland, O.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.
- (Crawling Tractor.)**  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.
- (Electric Traveling.)**  
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Erie Steel Construction Co., Erie, Pa.  
Harnischfeger Corp., Milwaukee, Wis.  
Milwaukee Elec. Crane & Hoist Corp., Milwaukee, Wis.
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Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.
- (Gasoline.)**  
Buckeye Traction Ditcher Co., Findlay, Ohio.  
Harnischfeger Corp., Milwaukee, Wis.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.
- (Locomotive.)**  
Bucyrus-Erie Co., Erie, Penna.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.
- (Material Handling.)**  
Bay City Shovels, Inc., Bay City, Mich.  
Industrial Brownhoist Corp., Cleveland, O.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.  
Universal Crane Co., Lorain, Ohio.
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- CREOSOTED TIMBER.**  
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Brown Wood Preserving Co., Louisville, Ky.
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Amer. Creosote Wks., Inc., New Orleans.  
Ayer & Lord Tie Co., Inc., Chicago.
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Amer. Creosoting Co., Inc., Louisville, Ky.  
Brown Wood Preserving Co., Louisville, Ky.  
Carolina Wood Preserving Co., Charleston, S. C.  
Delaware Wood Preserving Co., Phila.  
Eppinger & Russell Co., New York, N. Y.  
Gulf States Creos. Co., Hattiesburg, Miss.  
Savannah Creosoting Co., Savannah, Ga.  
Wales Wood-Preserving Co., Norfolk, Va.
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Amer. Creosoting Co., Inc., Louisville, Ky.  
Savannah Creosoting Co., Savannah, Ga.
- (Zinc Meta Arsenite Treated.)**  
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Amer. Creosote Wks., Inc., New Orleans.  
Amer. Creosoting Co., Inc., Louisville, Ky.  
Ayer & Lord Tie Co., Inc., Chicago.  
Carolina Wood Preserving Co., Charleston, S. C.  
Eppinger & Russell Co., New York, N. Y.  
Savannah Creosoting Co., Savannah, Ga.
- (Zinc Meta Arsenite Treated.)**  
Curtin-Howe Corp., New York, N. Y.
- CRUSHED STONE (Road Concrete and Ballast.)**  
American Limestone Co., Knoxville, Tenn.  
Boxley & Co., W. W., Roanoke, Va.
- CRUSHERS (Coal and Coke.)**  
Fuller Lehigh Co., Fullerton, Pa.
- (Rock.)**  
Universal Crusher Co., Cedar Rapids, Ia.
- CRUSHING and Pulverizing Machinery.**  
Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Day Pulverizer Co., Knoxville, Tenn.  
Fuller Lehigh Co., Fullerton, Pa.



Raymond Bros. Impact Pulverizer Co., Chicago, Ill.  
 Traylor Engr. & Mfg. Co., Allentown, Pa.  
 Universal Crusher Co., Cedar Rapids, Ia.  
 W-K-M Co., Inc., Houston, Texas.

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 Cast Iron Pipe Research Assn., Chicago.  
 U. S. Pipe & Foundry Co., Burlington, N.J.

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 American Sheet & Tin Plate Co., Pittsburgh, Pa.  
 Armaco Culvert Mfrs. Assn., Middletown, O.  
 Dixie Culvert & Metal Co., Atlanta, Ga.  
 Dixie Culvert Mfg. Co., Little Rock, Ark.  
 Louisiana Corr. Culvert Co., Baton Rouge, La.  
 Tenn. Metal Culvert Co., Nashville, Tenn.  
 Western Metal Mfg. Co., Houston, Texas.

**CURB PROTECTORS. (Steel Bar.)**  
 Truscon Steel Co., Youngstown, Ohio.

**CUTTERS (Wire Rope.)**  
 Leschen & Sons Rope Co., A., St. Louis.

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 National Tube Co., Pittsburgh, Pa.

**DAMPPOOFING.**  
 Headley Emulsified Products Co., Philadelphia, Pa.

**DERRICKS (Oil and Water Well.)**  
 International Derrick & Equipment Co., Columbus, Ohio.

**DERRICKS and Derrick Fittings.**  
 Clyde Iron Works Sales Co., Duluth, Minn.  
 Liddergood Mfg. Co., Elizabeth, N. J.  
 Sagen Derrick Co., Chicago, Ill.

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 Andrews Co., A. H., Chicago, Ill.

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 Barber-Greene Co., Aurora, Ill.  
 Bay City Shovels, Inc., Bay City, Mich.  
 Buckeye Traction Ditcher Co., Findlay, Ohio.  
 Harnischfeger Corp., Milwaukee, Wis.  
 Hayward Co., The, New York, N. Y.  
 Industrial Brownhoist Corp., Cleveland, O.  
 Northwest Engineering Co., Chicago, Ill.  
 Ohio Power Shovel Co., Lima, Ohio.  
 Owen Bucket Co., The, Cleveland, O.

**DOORS (Bronze.)**  
 Michaels Art Bronze Co., Covington, Ky.

**(Fire.)**  
 Merchant & Evans Co., Philadelphia, Pa.  
 Richards-Wilcox Mfg. Co., Aurora, Ill.

**(Fireproof, Air Chamber.)**  
 Wilson Corp., The J. G., New York.

**(Kalamain.)**  
 Moeschl-Edwards Corr. Co., Cincinnati.

**(Rolling, Steel and Wood.)**  
 Kinneer Mfg. Co., The, Columbus, Ohio.  
 Moeschl-Edwards Corr. Co., Cincinnati.  
 Wilson Corp., The J. G., New York.

**(Steel.)**  
 Truscon Steel Co., Youngstown, Ohio.

**(Tubular Steel.)**  
 Bayley Co., Wm., Springfield, O.

**(Vault.)**  
 York Safe & Lock Co., York, Penna.

**DRAFTSMEN'S SUPPLIES.**  
 Weber Co., Inc., F., Philadelphia, Pa.

**DRAGLINE EXCAVATORS.**  
 Bucyrus-Erie Co., Erie, Penna.  
 Harnischfeger Corp., Milwaukee, Wis.  
 Monaghan Mfg. Corp., Chicago, Ill.  
 National Equipment Corp. (Koehring, Inc.), Milwaukee, Wis.  
 Northwest Engineering Co., Chicago, Ill.  
 Ohio Power Shovel Co., Lima, Ohio.  
 Sauerman Bros., Chicago, Ill.  
 Thew Shovel Co., The, Lorain, Ohio.  
 Universal Power Shovel Co., Milwaukee, Wis.

**(Walking.)**  
 Monaghan Mfg. Corp., Chicago, Ill.

**DREDGES (Dipper, Elevator, Hydraulic.)**  
 Bay City Shovels, Inc., Bay City, Mich.  
 Bucyrus-Erie Co., Erie, Pa.  
 Elliott Machine Corp., Baltimore, Md.

**DREDGING (River and Harbor Improvement.)**  
 Arundel Corp., The, Baltimore, Md.  
 Atlantic Gulf and Pacific Co., New York.

**(Machinery.)**  
 Elliott Machine Corp., Baltimore, Md.  
 Hayward Co., The, New York.

**DRILLING CONTRACTORS.**  
 Kennedy-Riegger Drilling Co., New York City.  
 Mott Core Drilling Co., Huntington, W. Va.  
 Myers & Sons, J. L., Decatur, Texas.  
 Pennsylvania Drilling Co., Pittsburgh, Pa.  
 Southern Drilling Co., Saltville, Va.  
 Sprague & Henwood, Inc., Scranton, Pa.

**DRILLS (Oil and Artesian Well)**  
 International Derrick & Equipment Co., Columbus, Ohio.  
 Virginia Machinery & Well Co., Inc., Richmond, Va.

**(Hand)**  
 Gardner-Denver Co., Quincy, Ill.

**(Electric.)**  
 Gardner-Denver Co., Quincy, Ill.  
 Sullivan Mch. Co., Chicago.

**(Pneumatic.)**  
 Gardner-Denver Co., Quincy, Ill.  
 Ingersoll-Rand Co., New York, N. Y.  
 Sullivan Machinery Co., Chicago, Ill.

**DRINKING FOUNTAINS.**  
 Rundle-Spence Mfg. Co., Milwaukee, Wis.

**DROP-FORGING MACHINERY.**  
 Bliss Co., E. W., Brooklyn, N. Y.

**DRYERS (Gravel and Sand.)**  
 Ripley Fdy. & Mch. Co., Ripley, Ohio.

**DRY KILNS and Equipment.**  
 Moore Dry Kiln Co., Jacksonville, Fla.

**DRYING MACHINERY.**  
 American Process Co., New York, N. Y.

**DUMP TRUCK BODIES and HOISTS.**  
 Easton Car & Construction Co., Easton, Pa.

**DUSTPROOFING (Concrete.)**  
 Sonneborn Sons, Inc., L., New York.

**DYESTUFFS.**  
 Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

**DYNAMITE (Industrial and Agricultural.)**  
 Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

**ECONOMIZERS (Fuel.)**  
 Babcock & Wilcox Co., New York.

**ELECTRICAL Instruments and Supplies.**  
 Adam Electric Co., Frank, St. Louis.  
 General Electric Co., Schenectady, N. Y.  
 Western Electric Co., New York City.

**(Machinery (Generators, Motors, etc., New.)**  
 Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
 Century Electric Co., St. Louis, Mo.  
 Fairbanks, Morse & Co., Chicago, Ill.  
 General Electric Co., Schenectady, N. Y.  
 Howell Electric Motor Co., Howell, Mich.  
 Rockford Power Machy. Co., Rockford, Ill.  
 Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

**(Machinery (Generators, Motors, etc., Used.)**  
 Delta Equipment Co., Philadelphia, Pa.  
 Electric Service Co., Cincinnati, Ohio.  
 General Electric Co., Schenectady, N. Y.  
 Gregory Electric Co., Chicago.

**(Nuisbaum & Co., V. M., Ft. Wayne, Ind.)**  
 O'Brien Machinery Co., The, Phila., Pa.  
 Randle Machinery Co., The, Cincinnati, O.  
 Rockford Power Machy. Co., Rockford, Ill.

**(Machinery Repairing (Motors, Generators, etc.))**  
 Electric Service Co., Cincinnati, Ohio.  
 Gregory Electric Co., Chicago.

**ELECTRIC LIGHTING.**  
 General Electric Vapor Lamp Co., Hoboken, N. J.

**ELECTRIC SHOVELS (See Shovels.)**

**ELEVATOR Cables.**  
 Leschen & Sons Rope Co., A., St. Louis.

**ELEVATORS (Electric.)**  
 American Elevator & Machine Co., Inc., Louisville, Ky.  
 Millner Co., St. Louis, Mo.

**(Hand and Belt Power.)**  
 American Elevator & Machine Co., Inc., Louisville, Ky.  
 Millner Co., St. Louis, Mo.

**(Hydraulic.)**  
 American Elevator & Machine Co., Inc., Louisville, Ky.

**ENGINEERS (Airports.)**  
 International Derrick & Equipment Co., Columbus, Ohio.  
 MacElwee & Crandall, Inc., Cambridge, Mass.  
 Shaw Co., Russell B., St. Louis, Mo.

**(Appraisal.)**  
 Battey & Kipp, Inc., Chicago, Ill.  
 Fay, Spofford & Thorndike, Boston, Mass.  
 Ford, Bacon & Davis, Inc., New York.  
 Lockwood Greene Engrs., Inc., New York.  
 Main, Inc., Chas. T., Boston, Mass.  
 Sanderson & Porter, New York, N. Y.  
 Wadleigh & Bailey, Washington, D. C.  
 White Engineering Corp., J. G., New York.

**(Aviation.)**  
 Whitman, Requaardt & Smith, Balto., Md.  
 Wiedeman and Singleton, Inc., Atlanta.

**(Bridge.)**  
 Atlantic Bridge Co., Greensboro, N. C.  
 Billingsley, James W., New Orleans, La.  
 Fay, Spofford & Thorndike, Boston, Mass.  
 Freeland, Roberts & Co., Nashville, Tenn.  
 Gardner & Howe, Memphis, Tenn.  
 Greiner & Co., J. E., Baltimore, Md.  
 Hardaway Contracting Co., Columbus, Ga.  
 Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.  
 Howerton Engineering Co., Asheville, N.C.  
 Steel & Leiby, Knoxville, Tenn.  
 Turner, C. A. P., Minneapolis, Minn.  
 Virginia Bridge & Iron Co., Roanoke, Va.  
 Wheeler, Walter H., Minneapolis, Minn.  
 Whitman, Requaardt & Smith, Balto., Md.

**(Chemical.)**  
 Barrow-Agee Laboratories, Memphis, Tenn.  
 Dow & Smith, New York, N. Y.  
 Flood & Co. Walter H., Chicago, Ill.  
 Pittsburgh Testing Laboratories, Pittsburgh, Pa.  
 Southern Products Corp., New Orleans.

**(Civil.)**  
 Airmap Corp. of Amer., Brooklyn, N. Y.  
 Battey & Kipp, Inc., Chicago, Ill.  
 Charlton & Davis, Ft. Lauderdale, Fla.  
 Fuller & McClintock, New York, N. Y.  
 Gardner & Howe, Memphis, Tenn.  
 Greiner & Co., J. E., Baltimore, Md.  
 Harrib Engr. Co., C. N., Nashville, Tenn.  
 Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.  
 Hills Co., George B., Jacksonville, Fla.  
 MacElwee & Crandall, Inc., Cambridge, Mass.  
 Main, Inc., Chas. T., Boston, Mass.  
 Spoon & Lewis, Greensboro, N. C.  
 Spring, Charles Herbert, Greensboro, N.C.  
 Steel & Leiby, Knoxville, Tenn.  
 White Engineering Corp., J. G., New York.  
 Whitman, Requaardt & Smith, Balto., Md.

**(Consulting.)**  
 Airmap Corp. of Amer., Brooklyn, N. Y.  
 Charlton & Davis, Ft. Lauderdale, Fla.  
 Converse & Co., J. B., Mobile, Ala.  
 Cramer, Robert, Milwaukee, Wis.  
 Engineering Service Corp., Houston, Tex.  
 Harza Engineering Co., Chicago.  
 Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.  
 Lockwood Greene Engrs., Inc., New York.  
 Main, Inc., Chas. T., Boston, Mass.  
 Smith, Elroy G., Augusta, Ga.  
 Stillman & Van Sticlen, New York, N. Y.  
 Wadleigh & Bailey, Washington, D. C.  
 White Engineering Corp., J. G., New York.  
 Whitman, Requaardt & Smith, Balto., Md.  
 Wiedeman & Singleton, Inc., Atlanta, Ga.

**(Dams.)**  
 Alpaugh & Sons, Chas. W., Manassas, Va.  
 Battey & Kipp, Inc., Chicago, Ill.  
 Byllesby Engineering and Management Corp., Chicago, Ill.  
 Gardner & Howe, Memphis, Tenn.  
 Harza Engineering Co., Chicago.  
 Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.  
 Lee, William S., Charlotte, N. C.  
 Main, Inc., Chas. T., Boston, Mass.  
 Sillrine & Co., J. E., Greenville, S. C.  
 Tucker & Laxton, Charlotte, N. C.  
 Wheeler, Walter H., Minneapolis, Minn.  
 White Engineering Corp., J. G., New York.

**(Drainage and Irrigation.)**  
 Cramer, Robert, Milwaukee, Wis.  
 Ford, Bacon & Davis, Inc., New York.  
 Fuller & McClintock, New York, N. Y.  
 Hills Co., George B., Jacksonville, Fla.  
 Huey, S. E., Monroe, La.

**(Efficiency.)**  
 Ernst & Ernst, New York, N. Y.  
 Whitman, Requaardt & Smith, Balto., Md.

**(Electrical.)**  
 Battey & Kipp, Inc., Chicago, Ill.  
 Engineering Service Corp., Houston, Tex.  
 Hooser Engineering Co., Chicago, Ill.  
 Lee, William S., Charlotte, N. C.  
 Lockwood Greene Engrs., Inc., New York.  
 Main, Inc., Chas. T., Boston, Mass.  
 Mullergren, Arthur L., Kansas City, Mo.  
 Sanderson & Porter, New York, N. Y.  
 Tucker & Laxton, Charlotte, N. C.  
 Webb Electric Co., Anderson, S. C.  
 White Co., Gilbert C., Durham, N. C.  
 Wiley & Wilson, Lynchburg, Va.

**(Electric-Light and Power Plants.)**  
 Battey & Kipp, Inc., Chicago, Ill.  
 Byllesby Engineering and Management Corp., Chicago, Ill.  
 Cramer, Robert, Milwaukee, Wis.

**(Flood Control.)**  
 Harza Engineering Co., Chicago.

**(Forest.)**  
 Lacey & Co., Jas. D., New York, N. Y.

**(Gas.)**  
 Byllesby Engineering and Management Corp., Chicago, Ill.  
 Ford, Bacon & Davis, Inc., New York.  
 Huey, S. E., Monroe, La.

**(Geological.)**  
 De Kalb, Courtenay, New York City.  
 Froehling & Robertson, Richmond, Va.  
 Wadleigh & Bailey, Washington, D. C.  
 Withers, R. S., Jackson, Miss.

**(Harbor Improvements.)**  
 Billingsley, James W., New Orleans, La.  
 Engineering Service Corp., Houston, Tex.  
 Fay, Spofford & Thorndike, Boston, Mass.

**(Heating.)**  
 Battey & Kipp, Inc., Chicago, Ill.  
 Wiley & Wilson, Lynchburg, Va.

**(Hydraulic.)**  
 Alpaugh & Sons, Chas. W., Manassas, Va.  
 Fuller & McClintock, New York, N. Y.  
 Harza Engineering Co., Chicago.  
 Main, Inc., Chas. T., Boston, Mass.  
 Whitman, Requaardt & Smith, Balto., Md.

**(Hydro-electric.)**  
 Alpaugh & Sons, Chas. W., Manassas, Va.  
 Battey & Kipp, Inc., Chicago, Ill.  
 Byllesby Engineering and Management Corp., Chicago, Ill.  
 Harza Engineering Co., Chicago.  
 Lee, William S., Charlotte, N. C.  
 Main, Inc., Chas. T., Boston, Mass.  
 Mees & Mees, Charlotte, N. C.  
 Sanderson & Porter, New York, N. Y.  
 Sillrine & Co., J. E., Greenville, S. C.  
 Tucker & Laxton, Charlotte, N. C.  
 White Engineering Corp., J. G., New York.  
 Whitman, Requaardt & Smith, Balto., Md.

**(Ice and Refrigerating.)**  
 Engineering Service Corp., Houston, Tex.

**(Industrial Plants.)**  
 Battey & Kipp, Inc., Chicago, Ill.  
 Billingsley, James W., New Orleans, La.  
 Charleston Constructors, Inc., Charleston, S. C.  
 Consoer, Older & Quinlan, Inc., Chicago.  
 Converse & Co., J. B., Mobile, Ala.  
 Fay, Spofford & Thorndike, Boston, Mass.  
 Gardner & Howe, Memphis, Tenn.  
 Greiner & Co., J. E., Baltimore, Md.  
 Hills Co., George B., Jacksonville, Fla.  
 International Derrick & Equipment Co., Columbus, Ohio.  
 Lockwood Greene Engrs., Inc., New York.  
 MacElwee & Crandall, Inc., Cambridge, Mass.  
 Main, Inc., Chas. T., Boston, Mass.  
 Mees & Mees, Charlotte, N. C.  
 Mullergren, Arthur L., Kansas City, Mo.  
 Prentner & Co., Inc., G. Lloyd, Atlanta.  
 Sanderson & Porter, New York, N. Y.  
 Sillrine & Co., J. E., Greenville, S. C.  
 Smith, Elroy G., Augusta, Ga.  
 Turner, C. A. P., Minneapolis, Minn.  
 Widmer Engineering Co., St. Louis, Mo.

**(Industrial Survey.)**  
 Converse & Co., J. B., Mobile, Ala.  
 Lockwood Greene Engrs., Inc., New York.  
 Wadleigh & Bailey, Washington, D. C.

**(Inspection and Tests.)**  
 Barrow-Agee Laboratories, Memphis, Tenn.  
 Conrad, William R., Burlington, N. J.  
 Cramer, Robert, Milwaukee, Wis.  
 Dow & Smith, New York, N. Y.  
 Flood & Co. Walter H., Chicago, Ill.  
 Froehling & Robertson, Inc., Richmond, Va.  
 Hunt Co., Robert W., Chicago, Ill.  
 Pittsburgh Testing Laboratories, Pittsburgh, Pa.  
 Southwestern Laboratories, Ft. Worth, Tex.

**(Lighting.)**  
 Battey & Kipp, Inc., Chicago, Ill.  
 Byllesby Engineering and Management Corp., Chicago, Ill.  
 Ford, Bacon & Davis, Inc., New York.  
 General Electric Vapor Lamp Co., Hoboken, N. J.  
 Wiley & Wilson, Lynchburg, Va.

**(Mechanical.)**  
 Battey & Kipp, Inc., Chicago, Ill.  
 Charlton & Davis, Ft. Lauderdale, Fla.  
 Engineering Service Corp., Houston, Tex.  
 Lee, William S., Charlotte, N. C.  
 Lockwood Greene Engrs., Inc., New York.  
 Main, Inc., Chas. T., Boston, Mass.  
 Mees & Mees, Charlotte, N. C.  
 Meigs, Bassett & Slaughter, Phila., Pa.  
 Sanderson & Porter, New York, N. Y.  
 Wiley & Wilson, Lynchburg, Va.

**(Mining. See Engineers, Geological.)**

**(Municipal.)**  
 Billingsley, James W., New Orleans, La.  
 Consoer, Older & Quinlan, Inc., Chicago.  
 Dow & Smith, New York, N. Y.

Harrub Engr. Co., C. N., Nashville, Tenn.  
Hills Co., George B., Jacksonville, Fla.  
Howerton Engineering Co., Asheville, N.C.  
Huey, S. E., Monroe, La.  
Knowles, Inc., Morris, Pittsburgh, Pa.  
McCrary Co., The J. B., Atlanta, Ga.  
Spoon & Lewis, Greensboro, N. C.  
White Co., Gilbert C., Durham, N. C.

—(Paving and Roads.)

Billingsley, James W., New Orleans, La.  
Dow & Smith, New York, N. Y.  
Freeland, Roberts & Co., Nashville, Tenn.  
Harrub Engr. Co., C. N., Nashville, Tenn.  
Howerton Engineering Co., Asheville, N.C.  
Spoon & Lewis, Greensboro, N. C.  
White Co., Gilbert C., Durham, N. C.

—(Public Service Properties.)

Bylesby Engineering & Management Corp., Chicago, Ill.  
Ford, Bacon & Davis, Inc., New York.  
Fuller & McClintock, New York, N. Y.  
Knowles, Inc., Morris, Pittsburgh, Pa.  
Main, Inc., Chas. T., Boston, Mass.  
Sanderson & Porter, New York, N. Y.  
White Engineering Corp., J. G., New York.

—(Railroad.)

Huey, S. E., Monroe, La.  
Mees & Mees, Charlotte, N. C.

—(Reinforced Concrete Bridges, Buildings, etc.)

Atlantic Bridge Co., Greensboro, N. C.  
Battley & Kipp, Inc., Chicago, Ill.  
Fay, Spofford & Thorndike, Boston, Mass.  
Freeland, Roberts & Co., Nashville, Tenn.  
Gardner & Howe, Memphis, Tenn.  
Greiner & Co., J. E., Baltimore, Md.  
Lockwood Greene Engrs., Inc., New York.  
Main, Inc., Chas. T., Boston, Mass.  
Steel & Leiby, Knoxville, Tenn.  
Tucker & Laxton, Charlotte, N. C.  
Turner, C. A. P., Minneapolis, Minn.  
Wheeler, Walter H., Minneapolis, Minn.

—(Sanitary.)

Cramer, Robert, Milwaukee, Wis.  
Harza Engineering Co., Chicago.  
Whitman, Requaert & Smith, Balto., Md.

—(Sewage Disposal Plants.)

Cramer, Robert, Milwaukee, Wis.  
Fuller & McClintock, New York, N. Y.  
McCrary Co., The J. B., Atlanta, Ga.  
Whitman, Requaert & Smith, Balto., Md.  
Wiedeman and Singleton, Inc., Atlanta.

—(Sewerage and Waterworks.)

Conard, William B., Burlington, N. J.  
Conser, Oiler & Quinlan, Inc., Chicago.  
Ford, Bacon & Davis, Inc., New York.  
Fuller & McClintock, New York, N. Y.  
Hardaway Contracting Co., Columbus, Ga.  
Harrub Engr. Co., C. N., Nashville, Tenn.  
Hills Co., George B., Jacksonville, Fla.  
Howerton Engineering Co., Asheville, N.C.  
Knowles, Inc., Morris, Pittsburgh, Pa.  
Mees & Mees, Charlotte, N. C.  
Sanderson & Porter, New York, N. Y.  
Spoon & Lewis, Greensboro, N. C.  
Tucker & Laxton, Charlotte, N. C.  
White Co., Gilbert C., Durham, N. C.  
White Engineering Corp., J. G., New York.  
Whitman, Requaert & Smith, Balto., Md.  
Wiedeman & Singleton, Inc., Atlanta, Ga.

—(Structural.)

Freeland, Roberts & Co., Nashville, Tenn.  
Hedrick, Inc., Ira G., Hot Springs Nat'l Park, Ark.  
Hills Company, Geo. B., Jacksonville, Fla.  
Huey, S. E., Monroe, La.  
Lockwood Greene Engrs., Inc., New York.  
Turner, C. A. P., Minneapolis, Minn.  
Virginia Bridge & Iron Co., Roanoke, Va.  
Whitman, Requaert & Smith, Balto., Md.

—(Textile Mills.)

Lockwood Greene, Engrs., Inc., New York.  
Main, Inc., Chas. T., Boston, Mass.  
Stirring & Co., J. E., Greenville, S. C.

—(Transmission Lines.)

Hoosier Engineering Co., Chicago, Ill.

—(Ventilating and Heating.)

Wiley & Wilson, Lynchburg, Va.

—(Water Supply.)

Whitman, Requaert & Smith, Balto., Md.

ENGINES (Compressed Air.)

Dake Engine Co., Grand Haven, Mich.

—(Diesel Type.)

Fairbanks, Morse & Co., Chicago, Ill.

—(Gas and Gasoline.)

Novo Engine Co., Lansing, Mich.  
Sterling Engine Co., Buffalo, N. Y.

—(Hoisting.)

Clyde Iron Works Sales Co., Duluth, Minn.

—(Marine.)

Fairbanks, Morse & Co., Chicago, Ill.

—(Oil.)

Ingersoll-Rand Co., New York, N. Y.  
Continental Gin Co., Birmingham, Ala.

—(Steam.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Cole Mfg. Co., E. D., Newnan, Ga.  
Lefell & Co., James, Springfield, O.  
Lombard Iron Works & Supply Co., Augusta, Ga.  
Schoffeld's Sons Co., J. S., Macon, Ga.

ENVELOPES.

Young & Seldon Co., Baltimore, Md.

ESTIMATORS (Building & Construction.)

Martin, Joe B., Charlotte, N. C.  
Spring, Charles Herbert, Greensboro, N.C.

EXCAVATING MACHINERY.

Bay City Shovels, Inc., Bay City, Mich.  
Bucyrus-Erie Co., Erie, Penna.  
Clyde Iron Works Sales Co., Duluth, Minn.  
Harnischfeger Corp., Milwaukee, Wis.  
Hayward Co., The, New York, N. Y.  
Industrial Brownholt, Corp., Cleveland.  
Monaghan Mfg. Corp., Chicago, Ill.  
National Equipment Corp. (Koehring, Insley, Parsons), Milwaukee, Wis.  
Northwest Engineering Co., Chicago, Ill.  
Owen Bucket Co., The, Cleveland, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.  
Universal Power Shovel Co., Milwaukee, Wis.

EXCAVATORS (Clamshell and Orange Peel.)

Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., Lorain, Ohio.

—(Dragline. See Dragline Excavators.)

—(Trench.)

Barber-Greene Co., Aurora, Ill.  
Bay City Shovels, Inc., Bay City, Mich.  
Buckeye Traction Ditcher Co., Findlay, Ohio.  
Bucyrus-Erie Co., Erie, Penna.  
Harnischfeger Corp., Milwaukee, Wis.  
Hayward Co., The, New York, N. Y.  
Monaghan Mfg. Corp., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Universal Power Shovel Co., Milwaukee, Wis.

EXPANSION JOINTS (Road and Street.)

Carey Co., Philip, Lockland, Cincinnati, Ohio.  
Servicised Products Corp., Chicago, Ill.

EXPLOSIVES.

Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

FACTORY Management Systems.

Ernst & Ernst, New York, N. Y.

FEED-WATER HEATERS and Purifiers.

American Water Softener Co., Phila., Pa.

FENCE POSTS (Crescoted.)

Ayer & Lord Tie Co., Chicago, Ill.

FENCING Entrance Gates (Iron, Steel and Wire.)

American Steel and Wire Co., Balto., Md.  
Anchor Post Fence Co., Baltimore, Md.  
Cyclone Fence Co., Waukegan, Ill.  
Gulf States Steel Co., Birmingham, Ala.  
Stewart Iron Works Co., Cincinnati, O.

—(Field and Industrial, Wire Woven.)

American Steel and Wire Co., Balto., Md.  
Anchor Post Fence Co., Baltimore, Md.  
Cyclone Fence Co., Waukegan, Ill.  
Gulf States Steel Co., Birmingham, Ala.  
Stewart Iron Works Co., Cincinnati, O.

FERTILIZER MACHINERY.

Raymond Bros., Impact Pulv. Co., Chicago.

FILTER (For Domestic and Industrial Purposes.)

American Water Softener Co., Phila., Pa.  
Baeharach & Co., E. W., Kansas City, Mo.  
International Filter Co., Chicago, Ill.  
Roberts Filter Mfg. Co., Darby (Phila.), Pa.  
Seale & Sons Co., Wm. B., Oakmont, Pa.

—Cloth.

Newark Wire Cloth Co., Newark, N. J.

FINANCING.

Akers, William, Atlanta, Ga.  
Electric Bond & Share Co., New York.  
Garraway & Co., S. G., Chicago.  
Gay & Co., W. O., New York, N. Y.

FIRE CLAY.

North American Refractories Co., Cleveland, Ohio.

FIRE EXTINGUISHERS.

Myers & Bro. Co., The F. E., Ashland, O.

FIREPROOF Building Material.

Bannon Pipe Co., Louisville, Ky.

—Doors and Shutters.

Kinnear Mfg. Co., The, Columbus, Ohio.  
Moeschl-Edwards Corr. Co., Cincinnati, O.  
Richards-Wilcox Mfg. Co., Aurora, Ill.  
Wilson Corp., The J. G., New York City.

—Material and Construction.

Edwards Mfg. Co., Cincinnati, O.

FITTINGS (Wire Rope.)

Leschen & Sons Rope Co., A., St. Louis.  
Reebing's Sons Co., John A., Trenton, N. J.

FLANGES (Iron and Steel.)

Amer. Cast Iron Pipe Co., Birmingham.  
Dart Mfg. Co., E. M., Providence, R. I.  
Taylor Forge & Pipe Wks., Chicago, Ill.  
U. S. Pipe & Foundry Co., Burlington, N. J.  
Vogt Machine Co., Henry, Louisville, Ky.

—and Flanged Fittings.

Grinnell Co., Inc., Providence, R. I.

FLOOR (Asphalt Mastic.)

Barber Asphalt Co., Philadelphia, Pa.

—(Asphalt Plank.)

Servicised Products Corp., Chicago, Ill.

—(Cork Composition.)

Congoleum-Nairn, Inc., Kearny, N. J.

—(Hardwood, Maple, Oak.)

Kirby Lumber Co., Houston, Tex.  
Nashville Hardwood Flooring Co., Nashville, Tenn.

—(Linoleum.)

Congoleum-Nairn, Inc., Kearny, N. J.

—(Northern Hard Maple.)

Holt Hardwood Co., Oconto, Wis.

—(Open Steel.)

Blaw-Knox Co., Pittsburgh, Pa.  
Irring Iron Works Co., Long Is. City, N.Y.  
Kerlow Steel Flooring Co., Jersey City, N.J.

—Covering.

Congoleum-Nairn, Inc., Kearny, N. J.

—Hardner (Concrete.)

Sonneborn Sons, Inc., L., New York.

—Plates and Stair Treads.

Central Iron & Steel Co., Harrisburg, Pa.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.

—Steel (For Concrete Culverts, Roads, Streets.)

Blaw-Knox Co., Pittsburgh, Pa.

—Wax.

Congoleum-Nairn, Inc., Kearny, N. J.

FLUSH-TANK SIPHONS.

Pacific Flush-Tank Co., New York, N. Y.

FORGINGS (Drop.)

Vogt Machine Co., Henry, Louisville, Ky.

FORM CLAMPS.

M & M Clamp Co., Minneapolis, Minn.

FORMS, Steel (For Concrete Culverts, Roads, Streets, Curbs, Sidewalks, Tiles.)

Blaw-Knox Co., Pittsburgh, Pa.

FOUNDRIES and Machine Shops.

Deemer Steel Casting Co., New Castle, Del.  
General Machine Works, York, Pa.  
Giamorgan Pipe & Fdry. Co., Lynchburg, Va.  
Goldens' Fdry. & Mch. Co., Columbus, Ga.  
Lombard Iron Works & Supply Co., Augusta, Ga.  
Mountain State Steel Foundries, Parkersburg, W. Va.  
Richmond Foundry & Mfg. Co., Richmond, Va.

FOUNDRY Equipment and Supplies.

Chain Belt Co., Milwaukee, Wis.  
Hill & Griffith Co., Cincinnati, O.

—Facings (Talc and Soap-stone.)

Hill & Griffith Co., Cincinnati, O.

FURNACE LININGS.

North American Refractories Co., Cleveland, Ohio.

FURNACES (Industrial.)

Combustion Engr. Corp., New York City.

—(Water-Cooled.)

Combustion Engr. Corp., New York City.  
Fuller Lehigh Co., Fullerton, Pa.

GALVANIZED Products.

Birmingham Galvanizing Co., Birmingham, Ala.  
Cattle & Bros., Jos. P., Philadelphia, Pa.  
International Derrick & Equipment Co., Columbus, Ohio.

—Steel and Iron.

American Rolling Mill Co., Middletown, O.  
American Sheet & Tin Plate Co., Pittsburgh, Pa.  
Granite City Steel Co., Granite City, Ill.  
Republic Steel Corp., Youngstown, Ohio.

GALVANIZING (Cadmium Plating.)

Birmingham Galvanizing Co., Birmingham, Ala.

—(Hot Dip.)

Bessemer Galvanizing Works, Birmingham.  
Birmingham Galvanizing Co., Birmingham, Ala.  
Cattle & Bros., Jos. P., Philadelphia, Pa.  
Newport News Shipbuilding & Drydock Co., Newport News, Va.

GARAGES (Metal.)

Edwards Mfg. Co., Cincinnati, O.  
International Derrick & Equipment Co., Columbus, Ohio.

GAS HOLDERS.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Works, Atlanta, Ga.

—Producers.

Gas-O-Flame Stove Works, Port Deposit, Md.  
Wood & Co., R. D., Philadelphia, Pa.

GASOLINE and KEROSENE.

Gulf Refining Co., Pittsburgh, Pa.

GASOLINE SHOVELS (See Shovels.)

GATES (Automatic Drainage.)

Armco Culvert Mfrs. Assn., Middletown, O.  
Dixie Culvert & Metal Co., Atlanta, Ga.  
Dixie Culvert Mfg. Co., Little Rock, Ark.  
Louisiana Corr. Culvert Co., Baton Rouge, La.  
Tenn. Metal Culvert Co., Nashville, Tenn.  
Western Metal Mfg. Co., Houston, Texas.

GEARS.

Bestrom Mfg. Co., E. A., Atlanta, Ga.  
DeLaval Steam Turbine Co., Trenton, N.J.  
Earle Gear & Machine Co., Phila., Pa.  
General Electric Co., Schenectady, N. Y.  
Woods' Sons Co., T. B., Chambersburg, Pa.

—(Worm Reduction.)

DeLaval Steam Turbine Co., Trenton, N.J.

GENERATORS, MOTORS (New.)

Century Electric Co., St. Louis, Mo.  
General Electric Co., Schenectady, N. Y.  
Howell Electric Motors Co., Howell, Mich.  
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

—(Used.)

Gregory Electric Co., Chicago.  
O'Brien Machinery Co., Phila., Pa.  
Randle Machinery Co., The, Cincinnati, O.

GEOLOGISTS. (See Engineers, Geological.)

GLASS (Art.)

Hires Turner Glass Co., Philadelphia, Pa.

—(Plate.)

Blue Ridge Glass Corp., Kingsport, Tenn.  
Hires Turner Glass Co., Philadelphia, Pa.  
Southwestern Sheet Glass Co., Okmulgee, Okla.

—(Window.)

Blue Ridge Glass Corp., Kingsport, Tenn.  
Hires Turner Glass Co., Philadelphia, Pa.  
Southwestern Sheet Glass Co., Okmulgee, Okla.

—(Wire.)

Blue Ridge Glass Corp., Kingsport, Tenn.  
Hires Turner Glass Co., Philadelphia, Pa.  
Southwestern Sheet Glass Co., Okmulgee, Okla.

GRADERS (Elevating.)

Adams Co., J. D., Indianapolis, Ind.  
Caterpillar Tractor Co., Peoria, Ill.

—(One Man Motor.)

Adams Co., J. D., Indianapolis, Ind.

—(Leaning Wheel Road.)

Adams Co., J. D., Indianapolis, Ind.

GRAPHITE.

Dixon Crucible Co., Jos., Jersey City, N.J.

GRATES and Grate Bars.

Schofield's Sons Co., J. S., Macon, Ga.  
Vogt Machine Co., Henry, Louisville, Ky.



**GRATING (Area, Flooring, Sidewalk.)**  
Blaw-Knox Co., Pittsburgh, Pa.  
Hendrick Mfg. Co., Carbondale, Pa.  
Irving Iron Works, Long Is. City, N. Y.  
Kerlow Steel Flooring Co., Jersey City, N. J.

**GRAVEL (Roofing and Road.)**  
American Limestone Co., Knoxville, Tenn.  
Arundel Corp., The, Baltimore, Md.  
Boxley & Co., W. W., Roanoke, Va.  
Friend & Co., Inc., Petersburg, Va.

**GREASE CUPS.**  
Lunkenheimer Co., The, Cincinnati, O.

**GRILLES (Brass, Bronze, Steel, etc.)**  
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.

**GRINDERS (Gypsum, Limestone, etc.)**  
Raymond Bros. Impact Pulv. Co., Chicago.

—Wheels.  
Carborundum Co., Niagara Falls, N. Y.

**GUARD RAIL (Road.)**  
National Traffic Guard Co., Atlanta.

**GUNITE CONSTRUCTION.**  
Cement-Gun Co., Inc., Allentown, Pa.  
Cement Gun Construction Co., Chicago.  
Gunite Conc. & Constr. Co., Kansas City.  
Gunite Constr. Co., New York City.  
Rust Engineering Co., Birmingham, Ala.

**GUNPOWDER.**  
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

**GUNS (Hydraulic.)**  
Georgia Iron Works, Augusta, Ga.

**HANGARS (Airplane.)**  
Blaw-Knox Co., Pittsburgh, Pa.  
Ingalls Iron Works, Birmingham, Ala.  
International Derrick & Equipment Co., Columbus, Ohio.

**HANGARS (Door, All Kinds.)**  
Richards-Wilcox Mfg. Co., Aurora, Ill.

—(Line Shaft.)  
American Pulley Co., Philadelphia, Pa.  
Wood's Sons Co., T. B., Chambersburg, Pa.

**HARBOR IMPROVEMENTS.**  
Arundel Corp., Baltimore, Md.  
Atlantic, Gulf & Pacific Co., New York.

**HARDWARE (Door.)**  
Richards-Wilcox Mfg. Co., Aurora, Ill.

**HEATERS (Asphalt.)**  
Honhorst Co., Jos., Cincinnati, O.

**HEATING Apparatus (Engineers and Contractors.)**  
Grinnell Co., Inc., Providence, R. I.  
Foe Piping & Heating Co., Greenville, S. C.

**HOISTING MACHINERY.**  
Clyde Iron Works Sales Co., Duluth, Minn.  
Lidgerwood Mfg. Co., Elizabeth, N. J.

**HOISTS (Air Portable.)**  
Ingersoll-Rand Co., New York, N. Y.  
Sullivan Machinery Co., Chicago, Ill.

—(Chain.)  
Wright Mfg. Co., Lisbon, Ohio.

—(Electric.)  
Clyde Iron Works Sales Co., Duluth, Minn.  
Harnischfeger Corp., Milwaukee, Wis.  
Milwaukee Elec. Crane & Hoist Corp., Milwaukee, Wis.  
Novo Engine Co., Lansing, Mich.  
Street Bros. Mch. Wks., Chattanooga, Tenn.

—(Gasoline.)  
Clyde Iron Works Sales Co., Duluth, Minn.  
Dake Engine Co., Grand Haven, Mich.  
Equipment Corp. of America, Chicago, Ill.  
National Equipment Corp. (C. H. & E. Division), Milwaukee, Wis.  
Novo Engine Co., Lansing, Mich.  
Street Bros. Mch. Wks., Chattanooga, Tenn.

—(Steam.)  
Clyde Iron Works Sales Co., Duluth, Minn.  
Dake Engine Co., Grand Haven, Mich.  
Street Bros. Mch. Wks., Chattanooga, Tenn.

**HOOPS, Bands, etc. (Galvanized.)**  
Connors Steel Co., Birmingham, Ala.

**HOPPERS (Aggregate, Measuring and Weighing.)**  
Blaw-Knox Co., Pittsburgh, Pa.  
Butler Bin Co., Waukesha, Wis.  
Erie Steel Construction Co., Erie, Pa.

**HOSE (Rubber.)**  
Republic Rubber Co., Youngstown, Ohio.

**HOTELS.**  
Southern Hotel, The, Baltimore, Md.

**HOUSE MOVING.**  
Eichleay, Jr., Co., John, Pittsburgh.

**HUMIDIFYING AND DRYING EQUIPMENT.**  
Grinnell Co., Inc., Providence, R. I.

**HYDRAULIC PRESSES (Car Wheels.)**  
Tomlin-Harris Machine Co., Cordele, Ga.

**HYDRANTS (Fire.)**  
Ludlow Valve Mfg. Co., The, Troy, N. Y.  
Myers & Bro. Co., The, F. E., Ashland, O.  
Vogt Brothers Mfg. Co., Louisville, Ky.  
Wood & Co., R. D., Philadelphia, Pa.

**HYDRO - ELECTRIC POWER COMPANIES (Offering Industrial and Commercial Opportunities.)**  
Alabama Power Co., Birmingham, Ala.  
Georgia Power Co., Atlanta, Ga.  
Texas Power & Light Co., Dallas, Texas.

**ICE and Refrigerating Machinery and Supplies.**  
Ingersoll-Rand Co., New York, N. Y.  
Vogt Mch. Co., Henry, Louisville, Ky.

**INCORPORATORS.**  
Delaware Registration Trust Co., Wilmington, Del.

**INJECTORS.**  
Randle Machinery Co., The, Cincinnati, O.

**INSULATING (Board)**  
Armstrong Cork & Insulation Co., Lancaster, Pa.

—Materials.  
General Electric Co., Schenectady, N. Y.  
Okonite Co., New York, N. Y.

**INVESTMENT SECURITIES.**  
Electric Bond & Share Co., New York.  
Gay & Co., W. O., New York City.  
Hanchett Bond Co., Inc., The, Chicago, Ill.  
Mercantile Trust Co., Baltimore, Md.  
Nuveen & Co., John, Chicago.  
Provident Savings Bank & Trust Co., Cincinnati, Ohio.

**IRON.**  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

—(Ingot, For Culverts, etc.)  
American Rolling Mill Co., Middletown, O.

**JANITOR SUPPLIES.**  
Clark, Lloyd T., Southern Pines, N. C.

**JOINTS (Pipe.)**  
Leadite Co., The, Philadelphia, Pa.

**KETTLES (Pavers and Roofers.)**  
Honhorst Co., Jos., Cincinnati, O.

**LADDERS (Rolling.)**  
Myers & Bro. Co., The, F. E., Ashland, O.

—(Wooden.)  
Patent Scaffolding Co., Chicago, Ill.

**LAMPS (Incandescent.)**  
General Electric Vapor Lamp Co., Hoboken, N. J.  
Western Electric Co., New York City.

**LATH (Metal.)**  
Ingalls Iron Works Co., Birmingham, Ala.

**LATHES.**  
Sebastian Lathe Co., Cincinnati, Ohio.

**LIGHTING (Factory and Mill.)**  
General Electric Vapor Lamp Co., Hoboken, N. J.

—Fixtures (Electric.)  
Western Electric Co., New York City.

**LININGS (Flue, Fire Clay.)**  
Lee Clay Products Co., Clearfield, Ky.  
North Amer. Refractories Co., Cleveland.  
Owensboro Sewer Pipe Co., Owensboro, Ky.

—(Tube Mill.)  
Fuller Lehigh Co., Fullerton, Pa.

**LINOLEUM (Battleship, Embossed Inlaid, Inlaid, Jaspe.)**  
Congoleum-Nairn, Inc., Kearny, N. J.

**LITHOGRAPHERS and ENGRAVERS.**  
Smith & Son Co., Oscar T., Baltimore, Md.  
Young & Selden Co., Baltimore, Md.

**LOADING and UNLOADING MACHINERY (Portable.)**  
Barber-Greene Co., Aurora, Ill.  
Northwest Engineering Co., Chicago, Ill.

**LOCOMOTIVES (Compressed Air.)**  
Porter Co., H. K., Pittsburgh, Pa.

—(Fireless Stored Steam.)  
Porter Co., H. K., Pittsburgh, Pa.

—(Gasoline.)  
Porter Co., H. K., Pittsburgh, Pa.  
Whitcomb Co., Geo. D., Rochelle, Ill.

—(Industrial.)  
Equipment Corp. of America, Chicago, Ill.  
Porter Co., H. K., Pittsburgh, Pa.  
Southern Iron & Equipment Co., Atlanta.  
Whitcomb Co., Geo. D., Rochelle, Ill.

—(Mining.)  
Porter Co., H. K., Pittsburgh, Pa.  
Whitcomb Co., Geo. D., Rochelle, Ill.

—(Railway.)  
Porter Co., H. K., Pittsburgh, Pa.  
Southern Iron & Equipment Co., Atlanta.  
Whitcomb Co., Geo. D., Rochelle, Ill.

**LOGGING MACHINERY.**  
Clyde Iron Works Sales Co., Duluth, Minn.

**LOOM PICK COUNTER.**  
Veeder-Root, Inc., Hartford, Conn.

**LUBRICANTS.**  
Dixon Crucible Co., Jos., Jersey City, N. J.  
Gulf Refining Co., Pittsburgh, Pa.

**LUBRICATORS (Force Feed.)**  
Lunkenheimer Co., The, Cincinnati, O.

**LUMBER (Ceiling, Flooring, Siding.)**  
Jackson Lumber Co., Lockhart, Ala.  
Kirby Lumber Co., Houston, Texas.

Nashville Hardwood Flooring Co., Nashville, Tenn.

—(Creosoted.)  
Amer. Creosote Wks., Inc., New Orleans.  
Amer. Creosoting Co., Inc., Louisville, Ky.  
Ayer & Lord Tie Co., Inc., Chicago.  
Carolina Wood Preserving Co., Charleston, S. C.  
Delaware Wood Preserving Co., Phila.  
Eppinger & Russell Co., New York, N. Y.  
Gulf States Creos. Co., Hattiesburg, Miss.  
Savannah Creos. Co., Savannah, Ga.

—(Heavy Construction, Pitch, Pine, etc.)  
Kirby Lumber Co., Houston, Texas.

—(Zinc Meta Arsenite Treated.)  
Curtin-Howe Corp., New York City.

**MACHINERY (Special.)**  
Bliss Co., E. W., Brooklyn, N. Y.  
Bostrom Mfg. Co., E. A., Atlanta, Ga.  
Earle Gear & Machine Co., Phila., Pa.  
Fryer & Sons Machinery Co., St. Louis, Mo.  
General Machine Works, York, Pa.

—and Supplies (New and Used.)  
Electric Service Co., Cincinnati, Ohio.  
Marine Metal & Supply Co., New York.  
O'Brien Machinery Co., The, Phila., Pa.  
Randle Machinery Co., The, Cincinnati, O.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.  
Samler Mch. & Equip. Co., Baltimore.  
Seyfert's Sons, Inc., L. F., Phila., Pa.  
Zelnicke Supply Co., W. A., St. Louis.

**MACHINERY REPAIRING (Motors, Generators, etc.)**  
Nussbaum & Co., V. M., Fort Wayne, Ind.

**MACHINE TOOLS**  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.  
Sebastian Lathe Co., Cincinnati, Ohio.

—(Used.)  
Delta Equipment Co., Philadelphia, Pa.  
O'Brien Machinery Co., Philadelphia, Pa.

**MAIL CHUTES.**  
Cutler Mail Chute Co., Rochester, N. Y.

**MARBLE (Producers and Manufacturers.)**  
Georgia Marble Co., The, Tate, Ga.

**MATERIAL ELEVATORS.**  
National Equipment Corp. (Insley, C. H. & E.), Milwaukee, Wis.

**METAL-Cutting Machinery.**  
Earle Gear & Machine Co., Phila., Pa.

—Working Machinery.  
Bliss Co., E. W., Brooklyn, N. Y.

**MILL MACHINERY and SUPPLIES.**  
Lombard Iron Works & Supply Co., Augusta, Ga.

**MIXERS.**  
National Equipment Corp. (Koehring, T. L. Smith, Kwik-Mix), Milwaukee, Wis.

—(Asphalt.)  
Erie Machine Shops, Erie, Pa.

—(Hot.)  
Koehring Co., Milwaukee, Wis.

—(Mortar.)  
Chain Belt Co., Milwaukee, Wis.  
Jaeger Machine Co., Columbus, Ohio.

—(Plaster.)  
Blystone Mfg. Co., Cambridge Springs, Pa.  
Chain Belt Co., Milwaukee, Wis.  
Dunning & Boschert Press Co., Syracuse, N. Y.  
Jaeger Machine Co., Columbus, Ohio.

**MORTAR INGREDIENT.**  
Louisville Cement Co., Louisville, Ky.

**MOTORS (Electric.)**  
Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Century Electric Co., St. Louis, Mo.  
Fairbanks, Morse & Co., Chicago, Ill.  
General Electric Co., Schenectady, N. Y.  
Howell Electric Motors Co., Howell, Mich.  
Western Electric Co., New York City.  
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

**MOTOR TRUCKS.**  
International Harvester Co. of America, Inc., Chicago, Ill.

**NAILS (Cut.)**  
Reading Iron Co., Reading, Pa.

—and Spikes.  
American Steel & Wire Co., Balto., Md.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Youngstown Sheet & Tube Co., Youngstown, Ohio.

**NAPHTHA (Industrial.)**  
White Oak Refining Co., Tulsa, Okla.

**NATURAL GAS COMPANIES. (Offering Industrial and Commercial Opportunities.)**  
Arkansas Natural Gas Corp., Shreveport, La.

**OIL (Fuel and Gas.)**  
Gulf Refining Co., Pittsburgh, Pa.  
White Oak Refining Co., Tulsa, Okla.

—Cups.  
Lunkenheimer Co., The, Cincinnati, O.

**ORE-WASHING MACHINERY.**  
Georgia Iron Works, Augusta, Ga.

**ORNAMENTAL BRONZE WORK.**  
Heath Co., J. S., Waukegan, Ill.  
Michaels Art Bronze Co., Covington, Ky.

—Iron Work.  
Michaels Art Bronze Co., Covington, Ky.  
Roanoke Iron & Bridge Wks., Roanoke, Va.  
Snead Architectural Iron Works, Louisville, Ky.  
Southern Engineering Co., Charlotte, N. C.  
Stewart Iron Works Co., Cincinnati, O.

**PACKAGE SERVICE (Corrugated Paper.)**  
Hinde & Dauch Paper Co., Sandusky, O.

**PACKING (Asbestos, Metallic, Rubber, Leather, etc.)**  
Palmer Asbestos & Rubber Corp., Chicago.  
Republic Rubber Co., Youngstown, Ohio.

**PAINT (Aluminum.)**  
Aluminum Co. of America, Pittsburgh, Pa.

—(Metal Surfaces.)  
Aluminum Co. of America, Pittsburgh, Pa.  
Dixon Crucible Co., Jos., Jersey City, N. J.

—(Mill White, For Interior.)  
Aluminum Co. of America, Pittsburgh, Pa.  
Sonneborn Sons, Inc., L., New York.

—(Preservative.)  
Cabot, Inc., Samuel, Boston, Mass.  
Foster Co., Benjamin, Philadelphia, Pa.

**PANELBOARDS.**  
Adam Electric Co., Frank, St. Louis.

**PAPER BOXES (Corrugated, Shipping.)**  
Hinde & Dauch Paper Co., Sandusky, O.

**PARTITIONS (Metal, Folding, Rolling.)**  
Kinneair Mfg. Co., The, Columbus, Ohio.

—(Sectionfold, Rolling, Wood.)  
Wilson Corp., The, J. G., New York

**PATENT ATTORNEYS.**

Buck, Sterling F., Washington, D. C.  
Coleman, Watson E., Washington, D. C.  
Eaton, Paul B., Charlotte, N. C.  
Sasnett, Edward C., Washington, D. C.  
Seymour & Bright, Washington, D. C.

**PATTERNS (Drawing, etc.)**  
Haas Pattern Co., A. W., Atlanta, Ga.

**PAVING Blocks (Creosoted Wood.)**  
American Creosote Works, New Orleans.

—(Rubber.)  
Serviced Products Corp., Chicago, Ill.

—(Brick.)  
National Paving Brick Mfrs. Assn., Washington, D. C.

—(Breaker.)  
Gardner-Denver Co., Quincy, Ill.

—(Mixers.)  
National Equipment Corp. (Koehring, T. L. Smith), Milwaukee, Wis.

—(Plant (Asphalt).)  
Simplicity System Co., Chattanooga, Tenn.

**PENSTOCKS.**  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Works, Atlanta.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Smith Co., S. Morgan, York, Pa.

**PERFORATED METAL.**  
Chicago Perforating Co., Chicago, Ill.  
Erie Perforating Co., Rochester, N. Y.  
Harrington & King Perf. Co., Chicago.  
Hendrick Mfg. Co., Carbondale, Pa.  
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.  
Mundt & Sons, Charles, Jersey City, N. J.

**PETROLEUM REFINERS.**  
Gulf Refining Co., Pittsburgh, Pa.  
White Oak Refining Co., Tulsa, Okla.

**PHOSPHATE ACID.**  
Davison Chemical Co., Baltimore, Md.

**PIG-IRON.**  
Republic Steel Corp., Youngstown, Ohio.  
Sloss-Sheffield Steel & Iron Co., Birmingham, Ala.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

**PILING (Creosoted.)**  
Amer. Creosote Wks., Inc., New Orleans.  
Amer. Creosoting Co., Inc., Louisville.  
Ayer & Lord Tie Co., Inc., Chicago.  
Carolina Wood Preserving Co., Charleston, S. C.  
Savannah Creosoting Co., Inc., Savannah.  
Wales Wood-Preserving Co., Norfolk, Va.

—(Steel Sheet.)  
Carnegie Steel Co., Pittsburgh, Pa.  
Zelicker Supply Co., W. A., St. Louis.

—(Yellow Pine.)  
Jackson Lumber Co., Lockhart, Ala.

**PILLOW BLOCKS.**  
Goldens' Fdry. & Mch. Co., Columbus, Ga.

**PIPE.**  
Albert & Davidson Pipe Corp., Brooklyn, N. Y.  
Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.  
Arce Culvert Mfrs. Assn., Middletown, O.  
Birmingham Boiler & Engr. Co., Birmingham, Ala.  
Central Pipe & Supply Co., Charleston, W. Va.  
Greenpoint Iron & Pipe Co., Inc., Brooklyn, N. Y.  
Hudson Pipe & Supply Co., Bayonne, N. J.  
Maryland Pipe & Steel Corp., Baltimore, Md.  
National Tube Co., Pittsburgh, Pa.  
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.  
Power Piping Co., Pittsburgh, Pa.

—(Cast Iron.)  
Amer. Cast Iron Pipe Co., Birmingham.  
Cast Iron Pipe Research Assn., Chicago.  
Central Foundry Co., The, New York, N. Y.  
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.  
S. Pipe & Foundry Co., Burlington, N. J.

—(Dredge.)  
Abendroth & Root Mfg. Co., New York.  
Lancaster Iron Works, Inc., Lancaster, Pa.

—(Hammer-Welded.)  
National Tube Co., Pittsburgh, Pa.

—(Iron and Steel.)  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.

—(Riveted.)  
Abendroth & Root Mfg. Co., New York.

—(Second-Hand.)  
Albert & Davidson Pipe Corp., Brooklyn, N. Y.  
Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.  
Central Pipe & Sup. Co., Charleston, W. Va.

Greenpoint Iron & Pipe Co., Inc., Brooklyn, N. Y.  
Hudson Pipe & Supply Co., Bayonne, N. J.  
Marine Metal & Supply Co., New York.  
Maryland Pipe & Steel Corp., Baltimore, Md.

—(Spiral Riveted.)  
Abendroth & Root Mfg. Co., New York.  
Taylor Forge & Pipe Wks., Chicago, Ill.

—(Steel.)  
Bethlehem Steel Co., Bethlehem, Pa.  
National Tube Co., Pittsburgh, Pa.  
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.  
Power Piping Co., Pittsburgh, Pa.  
Republic Steel Corp., Youngstown, Ohio.  
Youngstown Sheet & Tube Co., Youngstown, Ohio.

—(Welded.)  
Welded Products Co. of La., Inc., New Orleans, La.

—(Wrought Iron.)  
Reading Iron Co., Reading, Pa.

—Benders and Headers.  
Grinnell Co., Inc., Providence, R. I.

—Bending Machines.  
American Pipe Bending Machine Co., Boston, Mass.

—Coatings.  
Foster Co., Benjamin, Philadelphia, Pa.

—Fittings.  
Amer. Cast Iron Pipe Co., Birmingham.  
Georgia Iron Works, Augusta, Ga.  
Grinnell Co., Inc., Providence, R. I.

—Lines (Water, Gas & Oil—Riveted or Welded.)  
Biggs Boiler Works Co., Akron, Ohio.

—Unions and Joints.  
Dart Mfg. Co., E. M., Providence, R. I.

—Systems (Industrial.)  
Grinnell Co., Inc., Providence, R. I.  
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.  
Power Piping Co., Pittsburgh, Pa.

**PLATES (Steel.)**  
Bethlehem Steel Co., Bethlehem, Pa.  
Carnegie Steel Co., Pittsburgh, Pa.  
Central Iron & Steel Co., Harrisburg, Pa.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Granite City Steel Co., Granite City, Ill.  
Gulf States Steel Co., Birmingham, Ala.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

**PNEUMATIC TOOLS.**  
Ingersoll-Rand Co., New York, N. Y.

**POLES (Creosoted.)**  
Amer. Creosote Wks., Inc., New Orleans.  
Amer. Creosoting Co., Inc., Louisville, Ky.  
Ayer & Lord Tie Co., Inc., Chicago.  
Brown Wood Preserving Co., Louisville, Ky.  
Carolina Wood Preserving Co., Charleston, S. C.  
Savannah Creosoting Co., Savannah, Ga.

—(Tubular, Steel.)  
National Tube Co., Pittsburgh, Pa.

—(Yellow Pine.)  
Jackson Lumber Co., Lockhart, Ala.

—(Zinc Meta Arsenite Treated.)  
Curtin-Howe Corp., New York City.

**POLISHING MACHINERY.**  
(Wheels, Blocks.)  
Carborundum Co., Niagara Falls, N. Y.

**POSTS, (Cast Iron, Railway and Highway.)**  
U. S. Pipe & Foundry Co., Burlington, N. J.

**POWER TRANSMISSION MACHINERY.**  
American Pulley Co., Philadelphia, Pa.  
Diamond Chain & Mfg. Co., Indianapolis.  
Goldens' Fdry. & Mch. Co., Columbus, Ga.  
O'Brien Machinery Co., Phila., Pa.  
Schofield's Sons Co., J. S., Macon, Ga.  
Wood's Sons Co., T. B., Chambersburg, Pa.

—(Pumps.)  
Luitwieler Pumping Engine Co., Rochester, N. Y.

**PREHEATERS (Air.)**  
Combustion Engr. Corp., New York City.

**PRESSES, (Baling, Cottonseed Oil, Hydraulic and Power.)**  
Dunning & Boschert Press Co., Inc., Syracuse, N. Y.  
Ripley Foundry & Machine Co., Ripley, O.  
Tomlin-Harris Machine Co., Cordoba, Ga.

—(Metal Stamping.)  
Bliss Co., E. W., Brooklyn, N. Y.

**PRINTERS (Book, Catalog, Job.)**  
Smith & Son Co., Oscar T., Baltimore, Md.  
Young & Selden Co., Baltimore, Md.

**PRODUCER (Gas Machines.)**  
Gas-O-Flame Stove Wks., Port Deposit, Md.  
Wood & Co., R. D., Phila., Pa.

**PULLEYS (Friction Clutch.)**  
Caldwell Co., Inc., W. E., Louisville, Ky.  
Wood's Sons Co., T. B., Chambersburg, Pa.

—(Motor and Machine.)  
American Pulley Co., Philadelphia, Pa.

—(Steel Split.)  
American Pulley Co., Philadelphia, Pa.

—Shafting and Hangers.  
American Pulley Co., Philadelphia, Pa.  
Goldens' Fdry. & Mch. Co., Columbus, Ga.  
Wood's Sons Co., T. B., Chambersburg, Pa.

**PULVERIZED COAL EQUIPMENT.**  
Combustion Engr. Corp., New York, N. Y.  
Fuller Lehigh Co., Fullerton, Pa.

**PULVERIZERS (See Crushing and Pulverizing Machinery.)**

**PUMPING MACHINERY.**  
Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.  
Chen Belt Co., Milwaukee, Wis.  
Cook, Inc., A. D., Lawrenceburg, Ind.  
Fairbanks, Morse & Co., Chicago, Ill.  
Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works), New York, N. Y.  
International Derrick & Equipment Co., Columbus, Ohio.  
Luitwieler Pumping Engine Co., Rochester, N. Y.  
Myers & Bro. Co., The F. E., Ashland, O.  
National Equipment Corp., (C. H. & E. Division), Milwaukee, Wis.  
Viking Pump Co., Cedar Falls, Iowa.  
Virginia Mch. & Well Co., Richmond, Va.

**PUMPS (Air.)**  
Manistee Iron Works Co., Manistee, Mich.

—(Air Lift.)  
Ingersoll-Rand Co., New York, N. Y.  
Sullivan Machinery Co., Chicago, Ill.

—(Boiler Feed.)  
Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.  
DeLaval Steam Turbine Co., Trenton, N. J.  
Erie Pump & Engine Wks., Medina, N. Y.  
Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works), New York, N. Y.  
Manistee Iron Works Co., Manistee, Mich.  
Myers & Bro. Co., The F. E., Ashland, O.

—(Centrifugal.)  
Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.  
DeLaval Steam Turbine Co., Trenton, N. J.  
Erie Pump & Engine Wks., Medina, N. Y.  
Fairbanks, Morse & Co., Chicago, Ill.  
Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works), New York, N. Y.  
Jaeger Machine Co., Columbus, Ohio.  
La Bour Co., Elkhart, Ind.  
Layne & Bowler, Inc., Memphis, Tenn.  
Manistee Iron Works Co., Manistee, Mich.  
Novo Engine Co., Lansing, Mich.

—(Contractors.)  
Erie Pump & Engine Wks., Medina, N. Y.  
Novo Engine Co., Lansing, Mich.

—(Deep Well.)  
Cook, Inc., A. D., Lawrenceburg, Ind.  
Layne & Bowler, Inc., Memphis, Tenn.  
Luitwieler Pumping Engine Co., Rochester, N. Y.  
Novo Engine Co., Lansing, Mich.

—(Diaphragm.)  
Novo Engine Co., Lansing, Mich.

—(Hydraulic.)  
Dunning & Boschert Press Co., Inc., Syracuse, N. Y.

—(Power.)  
Sterling Engine Co., Buffalo, N. Y.

—(Pulverized Coal.)  
Fuller Lehigh Co., Fullerton, Pa.

—(Rotary.)  
Viking Pump Co., Cedar Falls, Iowa.

—(Sand and Dredging.)  
Ellcott Machine Corp., Baltimore, Md.  
Erie Pump & Engine Wks., Medina, N. Y.  
Georgia Iron Works, Augusta, Ga.

—(Steam.)  
Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.  
Fairbanks, Morse & Co., Chicago, Ill.  
Ingersoll-Rand Co. (A. S. Cameron Steam Works), New York, N. Y.

—(Vacuum.)  
Ingersoll-Rand Co., New York, N. Y.  
Sullivan Machinery Co., Chicago, Ill.

—(Water Works.)  
Layne & Bowler, Inc., Memphis, Tenn.  
Manistee Iron Works Co., Manistee, Mich.

**PUNCHING AND SHEARING MACHINERY.**  
Bliss Co., E. W., Brooklyn, N. Y.  
Whitney Metal Tool Co., Rockford, Ill.

**RACK RAKES.**  
Newport, News Shipbuilding & Drydock Co., Newport News, Va.

**RADIATOR ENCLOSURES.**  
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.

**RADIATORS (Gas Steam.)**  
Williams Radiator Co., Los Angeles, Calif.

**RAILINGS (Iron Pipe.)**  
Pipe Railing Constr. Co., Long Island City, N. Y.

—(and Grilles, Iron and Brass, (Banks and Offices).)  
Ludlow Saylor Wire Co., St. Louis, Mo.

**RAILROAD Equipment and Supplies (New.)**  
International Derrick & Equipment Co., Columbus, Ohio.  
Robinson & Orr, Pittsburgh, Pa.

—Equipment and Supplies (Used.)  
Levis & Co., Henry, Philadelphia, Pa.  
Smith & Co., W. M., Birmingham, Ala.  
Southern Iron and Equip. Co., Atlanta.  
Zelicker Supply Co., W. A., St. Louis.

—(Frogs and Switches.)  
Bethlehem Steel Co., Bethlehem, Pa.  
Koppel Ind. Car & Equip. Co., Koppel, Pa.  
Robinson & Orr, Pittsburgh, Pa.

**RAILROADS — (Offering Industrial, Agricultural and Commercial Opportunities.)**  
Atlanta and West Point R. R., Atlanta.  
Central of Georgia Rwy., Savannah, Ga.  
Missouri-Kansas-Texas Lines, Dallas, Tex.  
Model Land Company, Flagler System, St. Augustine, Fla.  
Norfolk & Western Railway, Roanoke, Va.  
Tennessee Central Railway, Nashville.

**RAILS (New and Used.)**  
Carnegie Steel Co., Pittsburgh, Pa.  
Levis & Co., Henry, Philadelphia, Pa.  
Perry, Burton, Doane Co., Philadelphia, Pa.  
Robinson & Orr, Pittsburgh, Pa.  
Smith & Co., W. M., Birmingham, Ala.  
Southern Iron & Equip. Co., Atlanta, Ga.  
Sweet's Steel Co., Williamsport, Pa.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Zelicker Supply Co., W. A., St. Louis.

**RAILWAYS (Industrial.)**  
Easton Car & Construction Co., Easton, Pa.  
Koppel Ind. Car & Equip. Co., Koppel, Pa.

—(Marine.)  
Charleston Dry Dock and Machine Co., Charleston, S. C.

**RECEPTACLES (Self-Closing — Waste Paper.)**  
Whitaker Paper Co., Baltimore, Md.

**REELS and SPOOLS. (Pressed Metal.)**  
American Pulley Co., Philadelphia, Pa.

**REFRACORIES.**  
Harbison-Walker Refractories Co., Pittsburgh, Pa.  
North American Refractories Co., Cleveland, Ohio.  
Taylor Sons Co., Charles, Cincinnati.

**REFRIGERATING Machinery (See Ice and Refrigerating Machinery and Supplies.)**

**REINFORCING for Concrete.**  
American Steel and Wire Co., Balto., Md.  
Carnegie Steel Co., Pittsburgh, Pa.  
Connors Steel Co., Birmingham, Ala.  
Dietrich Brothers, Baltimore, Md.  
Gulf States Steel Co., Birmingham, Ala.  
Knoxville Iron Co., Knoxville, Tenn.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.  
Southern Engineering Co., Charlotte, N. C.  
Trucon Steel Co., Youngstown, Ohio.

**RETORTS (Special Process — Riveted or Welded.)**  
Biggs Boiler Works, Akron, Ohio.

**RIVER & HARBOR IMPROVEMENTS, (Dredging, Docks, Wharves, etc.)**  
Arundel Corp., The, Baltimore, Md.  
Atlantic Gulf and Pacific Co., New York.  
Kansas City Bridge Co., Kansas City.

**RIVETS.**  
Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.

**ROAD and Street Machinery.**  
Acme Road Mchry. Co., Frankfort, N. Y.  
Adams Co., J. D., Indianapolis, Ind.  
Austin-Western Road Machinery Co., Chicago.  
Blaw-Knox Co., Pittsburgh, Pa.  
Buffalo-Springfield Roller Co., Springfield, O.  
Caterpillar Tractor Co., Peoria, Ill.  
Erie Machine Shops, Erie, Pa.  
Harris Co., B. W. & Leo, Minneapolis, Minn.  
Huber Mfg. Co., The, Marion, Ohio.  
Universal Crane Co., Lorain, Ohio.



—**and Street Material.**  
Boxley & Co., W. W., Roanoke, Va.  
Sloss-Sheffield Steel and Iron Co., Birmingham, Ala.  
Truscon Steel Co., Youngstown, Ohio.  
Woodstock Slag Corp., Birmingham, Ala.

—**Graders and Scrapers.**  
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Caterpillar Tractor Co., Peoria, Ill.

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American Steel & Wire Co., Balto., Md.

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—**Scarifiers.**  
Buffalo-Springfield Roller Co., Springfield, O.

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Servicised Products Corp., Chicago, Ill.

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Eternit, Inc., St. Louis, Mo.

—**and Siding (Metal.)**  
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American Sheet and Tin Plate Co., Pittsburgh, Pa.  
Edwards Mfg. Co., Cincinnati, O.  
Gulf State Steel Co., Birmingham, Ala.  
Mikor Steel Co., Milwaukee, Wis.  
Moeschl-Edwards Corp., Cincinnati, O.  
Republic Steel Corp., Youngstown, Ohio.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.  
Truscon Steel Co., Youngstown, Ohio.  
Youngstown Sheet and Tube Co., Youngstown, O.

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Federal-American Cement Tile Co., Chicago.  
—**Tile.**  
Federal-American Cement Tile Co., Chicago.

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Broderick & Bascom Rope Co., St. Louis.  
—**Drives.**  
Wood's Sons Co., T. B., Chambersburg, Pa.

**RULES (Steel.)**  
Lufkin Rule Co., Saginaw, Mich.

**SAFES.**  
York Safe & Lock Co., York, Penna.

**SAND.**  
Arundel Corp., Baltimore, Md.  
Friend & Co., Inc., Petersburg, Va.

**SANITARY Drinking Fountains.**  
Rundle-Spence Mfg. Co., Milwaukee, Wis.

**SASH (Industrial.)**  
Truscon Steel Co., Youngstown, Ohio.

**SAWMILL Machinery.**  
Schofield's Sons Co., J. S., Macon, Ga.

**SAW RIGS.**  
National Equipment Corp., (C. H. & E. Division), Milwaukee, Wis.

**SAWS (Cold Metal.)**  
Earle Gear and Machine Co., Phila., Pa.

**SCAFFOLDING (Wooden.)**  
Patent Scaffolding Co., Chicago, Ill.

**SCRAPERS (Drag and Wheel.)**  
Adams Co., J. D., Indianapolis, Ind.  
Harris Co., B. W. & Leo, Minneapolis, Minn.  
Sauerman Bros., Chicago, Ill.

**SCRAP IRON AND STEEL.**  
Hunt's Sons, M. J., Philadelphia, Pa.  
Perry, Buxton, Doane Co., Philadelphia.  
Smith & Co., W. M., Birmingham, Ala.

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Seneca Wire & Mfg. Co., Fostoria, Ohio.

**SCREENING (For Concrete and Road Construction.)**  
American Limestone Co., Knoxville, Tenn.

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Chicago Perforating Co., Chicago, Ill.  
Erdle Perforating Co., Rochester, N. Y.  
Hendrick Mfg. Co., Carbondale, Pa.  
Ludlow Saylor Wire Co., St. Louis, Mo.  
Mundt & Sons, Charles, Jersey City, N. J.  
Universal Crusher Co., Cedar Rapids, Ia.

—**(Sifting.)**  
Newark Wire Cloth Co., Newark, N. J.

**SCREW-Machine Products.**  
Progressive Mfg. Co., Torrington, Conn.

**SCREWS (Machine.)**  
Progressive Mfg. Co., Torrington, Conn.

**SEAWALLS.**  
Shore-Line Builders, Inc., Jacksonville, Fla.

**SEPARATORS (Dust.)**  
Raymond Bros., Impact Pulv. Co., Chicago.

**SEWAGE Disposal Apparatus.**  
Pacific Flush-Tank Co., New York, N. Y.

**SEWER Joint Compounds.**  
Pacific Flush-Tank Co., New York, N. Y.  
Servicised Products Corp., Chicago, Ill.

—**Pipe (Vitrified.)**  
Bannon Pipe Co., Louisville, Ky.  
Dee Co., Wm. E., Oak Hill, Ohio.  
Lee Clay Products Co., Clearfield, Ky.  
Owensboro Sewer Pipe Co., Owensboro, Ky.

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Ryerson & Sons, Inc., Jos. T., St. Louis and New York.

—**(Cold Rolled.)**  
Bliss & Laughlin, Inc., Harvey, Ill.

—**Material (Tubular.)**  
National Tube Co., Pittsburgh, Pa.

**SHARPENING Stones.**  
Carborundum Co., Niagara Falls, N. Y.

**SHEET Metal Work.**  
Edwards Mfg. Co., Cincinnati, O.

—**Metal Working Machinery.**  
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Whitney Metal Tool Co., Rockford, Ill.  
Yoder Co., The, Cleveland, Ohio.

—**Steel and Iron.**  
American Rolling Mill Co., Middletown, O.  
American Sheet and Tin Plate Co., Pittsburgh, Pa.  
Bethlehem Steel Co., Bethlehem, Pa.  
Granite City Steel Co., Granite City, Ill.  
Gulf States Steel Co., Birmingham, Ala.  
Republic Steel Corp., Youngstown, Ohio.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Youngstown Sheet & Tube Co., Youngstown, O.

**SHEETS (Asbestos.)**  
Eternit, Inc., St. Louis, Mo.

**SHINGLES (Asbestos.)**  
Eternit, Inc., St. Louis, Mo.

—**(Stain.)**  
Cabot, Inc., Samuel, Boston, Mass.

**SHIPPING CARTONS (Corrugated Paper.)**  
Hinde & Dauch Paper Co., Sandusky, O.

**SHOVELS (Steam, Gas and Electric Power.)**  
Buckeye Traction Ditcher Co., Findlay, Ohio.  
Bucyrus-Erie Co., Erie, Penna.  
Harnischfeger Corp., Milwaukee, Wis.  
Industrial Brownhoist Corp., Cleveland, O.  
National Equipment Corp., (Koehring, Insley), Milwaukee, Wis.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.  
Universal Power Shovel Co., Milwaukee, Wis.

**SHUTTERS (Steel.)**  
Merchant & Evans Co., Philadelphia, Pa.

—**(Steel and Wood Bifolding.)**  
Kinneair Mfg. Co., The, Columbus, Ohio.

**SIEVES (Testing.)**  
Newark Wire Cloth Co., Newark, N. J.

**SILICATE OF SODA.**  
Grasselli Chemical Co., Inc., Birmingham.

**SITES (Manufacturing.)**  
Alabama Power Co., Birmingham, Ala.  
Atlanta and West Point R. R., Atlanta.  
Brown & Co., Chattanooga, Tenn.  
Central of Georgia Rwy., Savannah, Ga.

Fort Worth Chamber of Commerce, Fort Worth, Texas.  
Galveston, City of, Galveston, Texas.  
Georgia Power Co., Atlanta, Ga.  
Jacksonville, City of, Jacksonville, Fla.  
Missouri-Kansas Texas Lines, Dallas, Tex.  
Model Land Company, (Flagler System), St. Augustine, Fla.  
New Orleans Ch. of Com., New Orleans, La.  
Norfolk-Portsmouth Ch. of Commerce Norfolk, Va.  
Norfolk & Western Railway, Roanoke, Va.  
Tennessee Central Railway, Nashville.  
Texas Power & Light Co., Dallas, Texas.

**SKYLIGHTS.**  
Milcor Steel Co., Milwaukee, Wis.

**SLABS (Concrete Floor.)**  
Federal-American Cement Tile Co., Chicago.

—**(Concrete Roof.)**  
Federal-American Cement Tile Co., Chicago.

**SLAG, For Concrete.**  
Sloss-Sheffield Steel and Iron Co., Birmingham, Ala.  
Woodstock Slag Corp., Birmingham, Ala.  
—**(Furnace.)**  
Sloss-Sheffield Steel and Iron Co., Birmingham, Ala.  
Woodstock Slag Corp., Birmingham, Ala.

**SLINGS (Chain.)**  
Woodhouse Chain Works, Trenton, N. J.

—**(Wire Rope.)**  
Roebbling's Sons Co., John A., Trenton, N. J.

**SLUICE GATES AND APPLIANCES.**  
Smith Co., S. Morgan, York, Pa.

**SNATCH BLOCKS (For Wire and Manila Rope.)**  
Patterson Co., W. W., Pittsburgh, Pa.

**SPEED REDUCERS.**  
Earle Gear & Mach. Co., Phila., Pa.

**SPIKES, (Railroad, Ship.)**  
Bethlehem Steel Co., Bethlehem, Pa.  
Republic Steel Corp., Youngstown, Ohio.  
Sweet's Steel Co., Williamsport, Pa.

**SPRINGS (Machinery, Railway, Spiral Steel.)**  
American Steel & Wire Co., Balto., Md.  
—**(Wire—All Kinds.)**  
American Steel & Wire Co., Baltimore, Md.

**SPRINKLERS (Automatic Fire.)**  
Grinnell Co., Inc., Providence, R. I.

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Diamond Chain & Mfg. Co., Indianapolis, Ind.

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Biggs Boiler Works Co., Akron, Ohio.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge and Iron Works, Atlanta.  
Downingtown Iron Works, Downingtown, Pa.  
Hammond Iron Works, Warren, Pa.  
Hedges Walsh Weldner Co., Chattanooga, Tenn.  
Ingalls Iron Works Co., Birmingham, Ala.  
Lombard Iron Works & Supply Co., Augusta, Ga.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Schofield's Sons Co., J. S., Macon, Ga.  
U. S. Pipe & Foundry Co., Burlington, N. J.  
Virginia Bridge & Iron Co., Roanoke, Va.

**STAINS (Shingle, Woodwork.)**  
Cabot, Inc., Samuel, Boston, Mass.

**STAIR Steps (Safety.)**  
Irving Iron Works Co., Long Is. City, N. Y.

—**Treads.**  
Central Iron & Steel Co., Harrisburg, Pa.

**STAMPING (Sheet Metal.)**  
American Pulley Co., Philadelphia, Pa.  
Bostrom Mfg. Co., E. A., Atlanta, Ga.

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Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Works, Atlanta, Ga.  
Hammond Iron Works, Warren, Pa.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

**STATIONERS (Envelopes, Letter and Billheads, etc.)**  
Smith & Son Co., Oscar T., Baltimore, Md.  
Young & Selden Co., Baltimore, Md.

**STEAM SHOVELS.**  
Bucyrus-Erie Co., Erie, Pa.  
Thew Shovel Co., The, Lorain, Ohio.

**STEAM (Specialties.)**  
Lunkheimer Co., The, Cincinnati, O.  
Mueller Co., Decatur, Ill.

**STEEL.**  
Bethlehem Steel Co., Bethlehem, Pa.  
Central Iron & Steel Co., Harrisburg, Pa.  
Dietrich Brothers, Baltimore, Md.  
Gulf States Steel Co., Birmingham, Ala.  
Republic Steel Corp., Youngstown, Ohio.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Virginia Bridge & Iron Co., Roanoke, Va.

—**(Alloy.)**  
Timken Roller Bearing Co., Canton, Ohio.

—**(Cold Drawn.)**  
Bliss & Laughlin, Inc., Harvey, Ill.

—**(Cold Rolled.)**  
American Steel & Wire Co., Balto., Md.  
Bliss & Laughlin, Inc., Harvey, Ill.

—**(Information Only.)**  
American Institute of Steel Construction, Inc., New York City.

—**(Special Analysis.)**  
Timken Roller Bearing Co., Canton, Ohio.

—**(Tool, High Speed.)**  
Bethlehem Steel Co., Bethlehem, Pa.

—**Buildings (Designers and Builders.)**

American Bridge Co., New York, N. Y.  
Belmont Iron Works, Philadelphia, Pa.  
Butler Mfg. Co., Kansas City, Mo.  
Carolina Steel & Iron Co., Greensboro, N. C.  
Champion Bridge Co., Wilmington, O.  
Eichleay, Jr., Co., John, Pittsburgh, Pa.  
Erie Steel Construction Co., Erie, Pa.  
Ingalls Iron Works Co., Birmingham, Ala.  
International Derrick & Equipment Co., Columbus, Ohio.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Phoenix Iron Co., The, Phila., Pa.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Virginia Bridge & Iron Co., Roanoke, Va.

—**Forms (Curb, Gutter, Side-walk, Road.)**  
Blaw-Knox Co., Pittsburgh, Pa.

—**Plate Construction (Riveted or Welded.)**

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Birmingham Boiler & Engr. Co., Birmingham, Ala.  
Bristol Steel & Iron Works, Inc., Bristol, Va.  
Carolina Steel & Iron Co., Greensboro, N. C.  
Central Iron & Steel Co., Harrisburg, Pa.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Works, Atlanta, Ga.  
Combustion Engr. Corp., New York City.  
Hammond Iron Works, Warren, Pa.  
Hedges Walsh Weldner Co., Chattanooga, Tenn.  
Ingalls Iron Works Co., Birmingham, Ala.  
Lancaster Iron Works, Inc., Lancaster, Pa.  
Phoenix Iron Co., The, Phila., Pa.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Traylor Engr. & Mfg. Co., Allentown, Pa.

**STOKERS (Mechanical.)**  
Babcock & Wilcox Co., The, New York.  
Combustion Engr. Corp., New York City.

**STORAGE Batteries.**  
Electric Storage Battery Co., Philadelphia.

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Bessemer Galvanizing Works, Birmingham.

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American Bridge Co., New York, N. Y.  
Belmont Iron Works, Philadelphia, Pa.  
Bristol Steel & Iron Works, Inc., Bristol, Va.  
Carnegie Steel Co., Pittsburgh, Pa.  
Carolina Steel & Iron Co., Greensboro, N. C.  
Champion Bridge Co., Wilmington, Ohio.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Converse Bridge & Steel Co., Chattanooga, Tenn.  
Dietrich Brothers, Baltimore, Md.  
Eichleay, Jr., Co., John, Pittsburgh, Pa.  
Erie Steel Constr. Co., Erie, Pa.  
Ingalls Iron Works Co., Birmingham, Ala.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Nashville Bridge Co., Nashville, Tenn.  
Phoenix Iron Co., The, Phila., Pa.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Republic Steel Corp., Youngstown, Ohio.  
Roanoke Iron & Bridge Works, Inc., Roanoke, Va.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.  
Snead Architectural Iron Works, Louisville, Ky.  
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Rowan, W. E., Charlotte, N. C.  
Spring, Charles Herbert, Greensboro, N. C.

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Chattanooga Boiler & Tank Co., Chatta-  
nooga, Tenn.

Chicago Bridge & Iron Wks., Atlanta, Ga.  
Cole Mfg. Co., R. D., Newnan, Ga.  
Pittsburgh-Des Moines Steel Co., Pitts-  
burgh, Pa.  
Schofield's Sons Co., J. S., Macon, Ga.  
Virginia Bridge & Iron Co., Roanoke, Va.

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American Bridge Co., New York, N. Y.  
Biggs Boiler Works Co., Akron, Ohio.  
Chattanooga Boiler & Tank Co., Chatta-  
nooga, Tenn.

Chicago Bridge & Iron Wks., Atlanta, Ga.  
Cole Mfg. Co., R. D., Newnan, Ga.  
Downingtown Iron Works, Downingtown, Pa.  
Hammond Iron Works, Warren, Pa.  
Lancaster Iron Works, Inc., Lancaster, Pa.

Lombard Iron Works & Supply Co., Au-  
gusta, Ga.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Pittsburgh-Des Moines Steel Co., Pitts-  
burgh, Pa.

Scaife & Sons, Wm. B., Oakmont, Pa.  
Schofield's Sons Co., J. S., Macon, Ga.  
Titusville Iron Works Co., Titusville, Pa.  
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Westinghouse Traction Brake Co., Wil-  
merding, Pa.

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Chattanooga Boiler & Tank Co., Chatta-  
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Chicago Bridge & Iron Wks., Atlanta, Ga.  
Downingtown Iron Works, Downingtown, Pa.

Hammond Iron Works, Warren, Pa.  
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Pittsburgh-Des Moines Steel Co., Pitts-  
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Titusville Iron Works Co., Titusville, Pa.

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Congoleum-Nairn, Inc., Kearny, N. J.

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Hood Co., B. Mifflin, Daisy, Tenn.

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International Derrick & Equipment Co.,  
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Caterpillar Tractor Co., Peoria, Ill.

Cleveland Tractor Co., Cleveland, Ohio.

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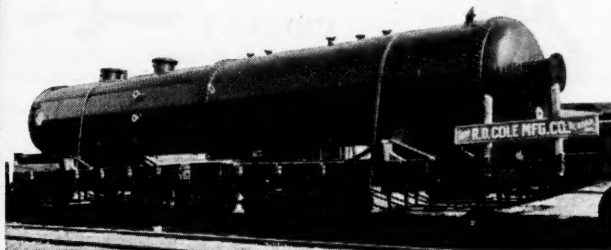
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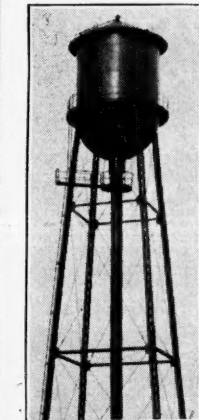
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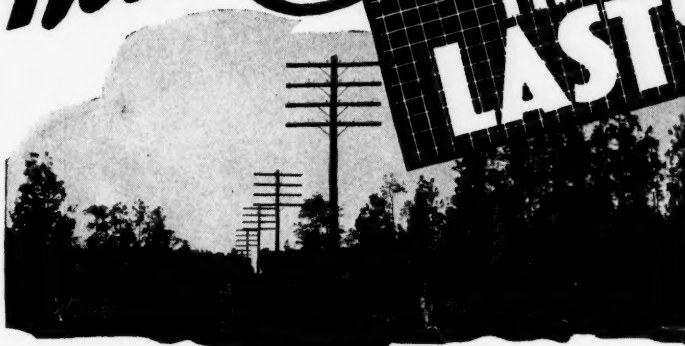
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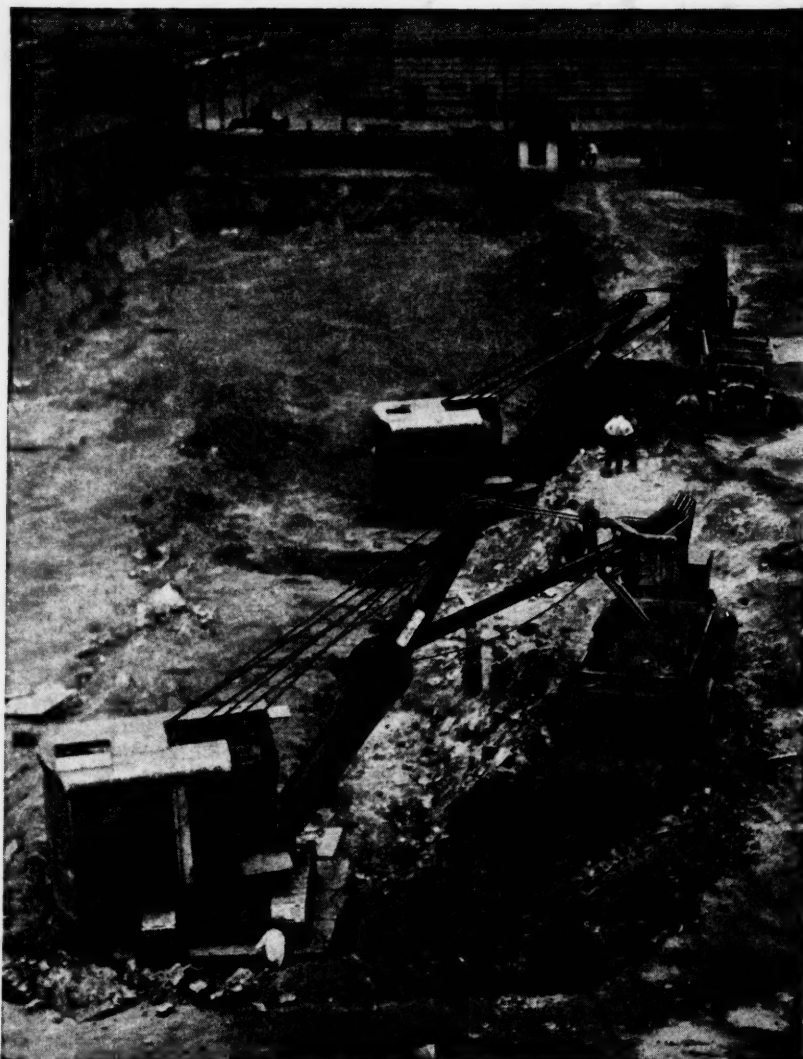
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